BLM

United States Department of the Interior
Bureau of Land Management

Environmental Assessment UT-080-08-0238
May 2009

Uintah County's
Seep Ridge Road Paving Project Environmental Assessment

Location on Federal Lands:

T. 10 S., R. 20 E., SLM, Utah
Sec. 11, N½NW¼,SE¼NW¼,NE¼SW¼,N½SE¼,SE¼SE¼;
Sec. 12, SW¼SW¼

T. 11 S., R. 21 E.
Sec. 6, Lot 1, SE¼NE¼,E½SE¼;
Sec. 7, E½NE¼,NE¼SE¼,S½SE¼;
Sec. 17, SW¼SW¼;
Sec. 18, N½NE¼,SE¼NE¼,E½SE¼;
Sec. 20, W½W½,SE¼SW¼;
Sec. 21, E½W½;
Sec. 33, W½NW¼,SE¼NW¼,N½SW¼,SE¼SW¼;

T. 12 S., R. 21 E.
Sec. 4, Lot 3, SW¼NE¼,SE¼NW¼,W½SE¼;
Sec. 9, N½NE¼,SE¼NE¼,NE¼SE¼;
Sec. 10, SW¼NW¼,W½SW¼;
Sec. 15, NW¼NW¼,S½NW¼,E½SW¼,SW¼SE¼;
Sec. 22, W½NE¼,N½SE,SE¼SE¼;
Sec. 23, SW¼SW¼;
Sec. 25, SW¼NE¼,S½NW¼,N½SE¼;
Sec. 26, SW¼NE¼,S½NW¼,S½SE¼.

T. 12 S., R. 22 E.
Sec. 30, Lots 3,4, SE¼SW¼;
Sec. 31, Lots 1,2,3,W½W½.

NATIONAL SYSTEM OF PUBLIC LANDS

T. 13 S., R. 22 E.
Sec. 4, S½SW¼;
Sec. 5, SW¼;NW¼,S½SW¼,W½SE¼,SE¼SE¼;
Sec. 6, Lots 1,2,3,SE¼NE¼;
Sec. 9, N½NE¼,SE¼NE¼,NE¼NW¼;
Sec. 10, SW¼NW¼,N½S½;
Sec. 11, NW¼SW¼,S½SW¼;
Sec. 14, E½W½;
Sec. 23, SW¼NE¼,W½NW¼,NE¼SW¼,W½SE¼;
Sec. 26, W½NE¼,E½NW¼.

T. 14 S., R. 22 E.
Sec. 11, W½SE¼;
Sec. 14, W½E½;
Sec. 23, N½NE¼,SE¼NE¼;
Sec. 24, SW¼NW¼,W½SW¼,SE¼SW¼;
Sec. 25, N½NE¼,SE¼NE¼,NE¼NW¼.

T. 14 S., R. 23 E.
Sec. 30, Lots 2,3,E½SW¼,S½SE¼;
Sec. 31, NE¼NE¼.

T. 15 S., R. 23 E.
Sec. 4, SW¼NW¼;
Sec. 5, Lot 1, SE¼NE¼,E½SE¼;
Sec. 8, E½NE¼;
Sec. 9, SW¼NW¼,W½SW¼,SE¼SW¼;
Sec. 22, SW¼SE¼.

All in Uintah County, Utah.

Salt Lake Meridian

Applicants: Uintah County
152 East 100 North
Vernal, UT 84078

U.S. Department of the Interior
Bureau of Land Management
Vernal Field Office
170 South 500 East
Vernal, Utah 84078
Phone: (435) 781-4400
FAX: (435) 781-4410

Uintah County's

Seep Ridge Road Paving Project Environmental Assessment
UT-080-08-0238

Table of Contents

LIST OF TABLES

LIST OF APPENDICES

LIST OF EXHIBITS

This page intentionally left blank.

1.0 - PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Seep Ridge Road Paving Project as proposed by Uintah County (hereafter referred to as the county). The EA is a site-specific analysis of potential impacts that could result with the implementation of the Proposed Action or an alternative to the Proposed Action. The EA assists the BLM in project planning and in making a determination as to whether any "significant" impacts could result from the analyzed actions. An EA also provides evidence for determining whether a statement of "Finding of No Significant Impact" (FONSI) will be prepared or whether an Environmental Impact Statement (EIS) will be required. A FONSI is a document that briefly presents the reasons why implementation of the Proposed Action or alternatives would not result in "significant" environmental impacts. If the decision maker determines that this project has no "significant" impacts following the analysis in the EA, a Decision Record and FONSI would be prepared approving the selected alternative. If the project is found to have "significant" impacts, an EIS would be prepared.

1.2 BACKGROUND

Seep Ridge Road, located in Uintah County, also known as Uintah County Road (UCR) 2810, has been historically used for public purposes, such as hunting, recreation, oil and gas exploration, and livestock grazing. Uintah County currently has a BLM right-of-way (ROW), UTU-69125-35, issued in perpetuity for the road across public lands. The existing grant authorizes a 66-foot width. The road is currently composed of dirt or native material and several segments of the existing road do not meet current federal and state road design standards for public safety. All projections indicate a continued substantial increase in light and heavy vehicle traffic on the road, primarily associated with energy development in the Book Cliffs area. Uintah County seeks to amend their existing ROW to address these issues.

1.3 PURPOSE & NEED FOR THE PROPOSED ACTION

BLM's purpose is to consider amending the county's existing ROW, as outlined in the application, while also preventing unnecessary degradation to public land. The BLM would decide whether to grant the ROW amendment, and if so, under what terms and conditions.

BLM's need for the project is to respond to the applicant's proposal. Access to public lands via public roads is allowed in conformance with the Land Use Plan. Maintenance of roads which provide access to public lands is consistent with the mission of the BLM. The Federal Land Policy and Management Act of 1976 (FLPMA) mandates that the public lands be managed in a manner that will provide for outdoor recreation and human occupancy and use (Sec. 102(a)(8) 43 U.S.C. 1701).

1.4 CONFORMANCE WITH BLM LAND USE PLAN(S)

The management of public lands under the jurisdiction of the BLM and resources within the Project Area is directed and guided by the Vernal Field Office (VFO) Record of Decision (ROD) and Resource Management Plan, approved October 2008 (BLM 2008a). As stated in the VFO Approved RMP, the BLM's primary management objectives for the lands and realty programs are to:

- Accommodate community growth and development when it is determined that it is in compliance with other goals and objectives of the plan;

- Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with policy and guidance; and
- Manage public lands to support goals and objectives of other resources programs, respond to public requests for land use authorizations.

Specific lands and realty management decisions pertinent to this proposal include:

- **LAR-15:** All applications to pave routes will be evaluated in site-specific NEPA analysis to determine the need for fencing.
- **LAR 41:** These approved transportation/utility corridors are the preferred location for future major linear ROWs which meet the following criteria: Paved routes or routes consisting of more than two lanes.
- **LAR 42:** Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

A review of the Proposed Action and alternatives against the above-stated decisions has determined that the Proposed Action and alternatives would be conformance with the VFO Approved RMP. Consideration of an amendment to Uintah County's existing Seep Ridge Road ROW would be in conformance with the overall management goals and objectives stated above. The proposed amendment would also be in conformance with specific lands and realty management decisions because the need for fencing of the paved Seep Ridge Road was considered (refer to Section 2.3.3); segments of the proposed road would involve truck climbing lanes, the entire roadway would not consist of more than two lanes; and, the proposed ROW amendment would be within or involve the existing Seep Ridge Road ROW and would be consistent with the existing ROW conditions of approval.

1.5 RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

The proposed activity is in conformance with FLPMA, as amended. This EA was prepared by the BLM in accordance with NEPA and in compliance with all applicable regulations and laws passed subsequently, including the President's Council on Environmental Quality (CEQ) regulations, U.S. Department of Interior requirements and guidelines listed in the BLM *Manual Handbook H-1790-1* (BLM 2008b), and Utah BLM NEPA Guidebook (BLM 2006). This EA assesses the environmental effects of the Proposed Action (Alternative A) and alternatives, and also serves to document public participation and consultation conducted with other agencies.

The alternatives considered in this EA are also consistent with the Uintah County General Plan (Uintah County 2007, as amended). The Uintah County Plan generally indicates support for development proposals in its emphasis of multiple-use public land management practices and its emphasis of responsible use and optimum utilization of public land resources. Within the Uintah County General Plan, multiple-use is defined as including, but not being limited to, the following historically and traditionally-practiced resource uses: grazing, recreation, timber, mining, oil and gas development, agriculture, wildlife habitat, and water resources as they become available or as new technology allows.

The State of Utah is obligated by both the Utah Enabling Act and the Utah Constitution to act as a trustee in managing school trust lands. The State Institutional Trust Lands Administration (SITLA) is the independent state agency responsible by law for the management of these lands. The BLM understands

that their management decisions affect the ability of the Utah public schools to receive the revenue from the in-held school lands, as intended by Congress when they were granted.

1.6 IDENTIFICATION OF ISSUES

Issues were identified both internally and externally relative to this proposal. Internally the BLM and Uintah County met on May 19, 2008, to review the elements of the Proposed Action. An Interdisciplinary Team analysis was completed and documented in the Interdisciplinary Team (IDT) Analysis Record Checklist (refer to Appendix A). Those resources identified as not present (NP) in the Project Area or not impacted (NI) were not carried forward into the EA. Resources identified as potentially impacted (PI) are identified below and were carried forward in Chapters 3 and 4 of this EA.

Externally, the Proposed Action was posted to the BLM Environmental Notification Bulletin Board (ENBB) on December 01, 2008. The Uintah County conducted a public meeting on September 16, 2008 in Vernal, Utah. Attending this meeting were 12 citizens of which 5 provided comments. In addition, private landowners owning lands over which the Seep Ridge Road crosses were contacted on April 1, 2009, for their issues and concerns on the proposed project. The BLM has coordinated with the affected grazing permittees as to their concerns relative to this project.

Issues identified from both the internal and external scoping exercises are identified below. (Note: The issues listed below follow the presentation in the IDT Checklist. The presentation of environmental elements in Chapters 2 through 5 of this document are re-ordered to provide a grouping of like resources or elements.

1.6.1 AIR QUALITY

- Impacts to air quality from fugitive dust created during construction activities.

1.6.2 CULTURAL RESOURCES

- Impacts to historic and prehistoric sites from construction activities within the Project Area.

1.6.3 FLOODPLAINS

- Impacts to Cottonwood Wash and its associated floodplain from proposed construction activities.

1.6.4 INVASIVE PLANTS, NOXIOUS WEEDS

- Impacts to native vegetation communities from introduction and/or expansion of invasive weeds from construction-related vehicles and equipment and the anticipated increase in recreational vehicle traffic on the upgraded roadway.

1.6.5 LANDS/ACCESS

- Impacts to existing authorized easements (e.g., pipelines) that parallel and/or cross the Seep Ridge Road ROW from proposed expansion of and improvements to the existing ROW.

1.6.6 LIVESTOCK GRAZING

- Impacts to grazing operations in the Project Area, including existing range improvements (water facilities, corrals, fences, etc.) from proposed expansion of and improvements to the ROW.
- Impacts to current, predominately open grazing practices from proposed expansion of and improvements to the ROW.
- Impacts to livestock from animal:vehicle collisions resulting from expected increased vehicle traffic and speed on the improved roadway.

1.6.7 PALEONTOLOGY

- Impacts to paleontological resources from proposed construction activities.

1.6.8 RECREATION (INCLUDING TRAVEL MANAGEMENT)

- Impacts to dispersed as well as planned/designated recreation facilities from improvements to be made to the Seep Ridge Road, especially paving the road and proximity to these facilities.
- Impacts to OHV users from improvements to be made to the Seep Ridge Road.

1.6.9 SOILS

- Impacts to soil resources from increased sedimentation from construction activities.

1.6.10 SPECIAL STATUS ANIMAL SPECIES OTHER THAN USFWS CANDIDATE OR LISTED SPECIES, E.G., MIGRATORY BIRDS

- Impacts to sage grouse, white-tailed prairie dog, burrowing owl, raptors and migratory birds from proposed expansion of and improvements to the ROW.
- Impacts to big game species' habitats and traditional free-ranging movements from proposed improvements made to the ROW.
- Impacts to big game individuals from animal:vehicle collisions resulting from expected increased vehicle traffic on the improved roadway.

1.6.11 SPECIAL STATUS PLANT SPECIES OTHER THAN USFWS CANDIDATE OR LISTED SPECIES

- Impacts to Graham beardtongue (*Penstemon grahamii)* from proposed construction activities along the Seep Ridge Road.

1.6.12 THREATENED, ENDANGERED AND CANDIDATE ANIMAL SPECIES

- Impacts to Colorado River system endangered fish and their critical habitat from possible water depletions from the White and Green Rivers.

1.6.13 THREATENED, ENDANGERED AND CANDIDATE PLANT SPECIES

- Potential impacts to clay reed mustard (Schoenocrambe argillacea) in areas adjacent to the current Seep Ridge Road from construction activities.

1.6.14 VEGETATION

- Impacts to native vegetation communities from construction activities.

1.6.15 WATER QUALITY (SURFACE/GROUND)

- Impacts to water quality from increased surface runoff coming off the improved road.
- Potential impacts due to increased amounts of water coming off the paved road.

1.6.16 WATERS OF THE U.S.

- Impacts to the drainages involving waters of the United States from flash runoff events.

1.6.17 WOODLAND/FORESTRY

- Impacts to pinyon-juniper woodlands within the ROW from construction activities.

This page intentionally left blank.

2.0 - PROPOSED ACTION AND ALTERNATIVES

This chapter provides detailed descriptions of the two alternatives for the Seep Ridge Road Paving Project EA. The alternatives assessed in detail in this EA are as follows:

Alternative A - Proposed Action
Alternative B - No Action

2.1 ALTERNATIVE A – PROPOSED ACTION

Uintah County proposes to amend its existing ROW UTU-69125-35 to reconstruct and upgrade the Seep Ridge Road as follows:

- Expand the existing ROW width from 66 feet to 150 feet.
- Redesign and reconstruct the existing road to bring it into compliance with current federal (AASHTO Green Book) and Utah Department of Transportation (UDOT) highway standards.
- Upgrade the existing native road base to an all-weather bituminous surface pavement.
- Obliterate, reclaim and install barriers on existing road segments that would be abandoned due to new route realignment.

Upgrade and paving activities of the Seep Ridge Road would begin at a point on the historic Uintah and Ouray Indian Reservation Boundary (located in the SE1/4SE1/4 section 3, T10S, R20E, SLM), and continue in a southerly direction, ending at Uintah County's southern boundary line (located in the SW1/4SW1/4 section 36, T15S, R24E, SLM) (refer to Exhibit 1 in Appendix G).

The total length of the proposed ROW would involve approximately 44.5 miles, of which approximately 69 percent would involve federal lands; 29 percent would involve State of Utah lands, administered by Utah's School and Institutional Trust Lands Administration (SITLA); and, 2 percent would involve private lands. Table 2-1.1 provides a comparison between the existing and the proposed dimensions for the Seep Ridge Road.

Table 2-1-1. Comparison Between Existing and Proposed Dimensions for the Seep Ridge Road

	Existing ROW	Proposed ROW
Length	45.4 miles	44.5 miles
Width	66 feet	150 feet
Total Acres	362.8	809.5
Disturbance Acres*	142.9	702.0
Percent of Total Acres	39	89

*Includes the running road surface

Specifically, the following lands would be involved:

Bureau of Land Management

T10S, R20E, sections 11 and 12
T11S, R21E, sections 6, 7, 17, 18, 20, 21 and 33
T12S, R21E, sections 4, 9, 10, 15, 22, 23, 25 and 26

T12S, R22E, sections 30 and 31
T13S, R22E, sections, 4, 5, 6, 9, 10, 11, 14, 23 and 26
T14S, R22E, sections 11, 14, 23, 24 and 25
T14S, R23E, sections 30 and 31
T15S, R23E, sections 4, 5, 8, 9, and 22

State of Utah

T10S, R20E, sections 13, 24, 25 and 36
T11S, R21E, section 32
T13S, R22E, section 26 and 35
T14S, R22E, section 2
T14S, R23E, section 32
T15S, R23E, sections 16, 21, 22, 26, 27 and 36

Private

T13S, R22E, section 35
T14S, R22E, section 11

The county would obtain amended ROW grants from SITLA for those portions of the Seep Ridge Road crossing state lands. The county would also secure easements and surface use agreements from private land owners for those portions of the road crossing private lands.

2.1.1 CONSTRUCTION ELEMENTS

Upon receipt of needed authorizations, construction activities would begin in the summer of 2009 and could continue for up to 6 years, or until the project is complete.

The county, and its contractors or subcontractors, would adhere to established federal and state road design and construction standards. To ensure public safety and the protection of the surface resources – reconstruction and upgrades would be accomplished to the appropriate standards. Construction design elements would include the following:

- The posted existing speed limit is 35 miles per hour (mph). Design speed would be 55 miles per hour (mph). The proposed posted speed limits would be as follows:
    - 35 mph during construction activities
    - 35-45 mph while the road's surface is graveled
    - 55 mph after the entire roadway is paved
- The county would install speed limit signs along the length of the Seep Ridge Road. Enforcement of these speeds would be carried out through public education and county law enforcement.
- Maximum grades would not exceed 8 percent; pitch grades for lengths not to exceed 300 feet could be allowed to exceed 8 percent in some cases.
- An estimated 16 culverts would need to be installed along the proposed roadway. These culverts would be sized in accordance with accepted engineering practices, special environmental concerns, and applicable practices adopted under authority of the Federal Clean Water Act. The minimum size for any culvert would be 18 inches and would be designed to accommodate a 100-year storm event. Culverts would be laid on natural ground or at the original elevation of any

drainage crossed. The outlet of all culverts would be at least 1 foot beyond the toe of any slope. Rip-rap or rock would armor the outlet ends of the culvert to prevent soil erosion or to trap sediment.

- Identified segments of the road would involve climbing lanes, i.e., a third lane needed to facilitate slower, heavier traffic. Current AASHTO design criteria state a climbing lane is appropriate if a combination of grade and length of grade reduces the expected speed by 10 miles per hour (mph) or greater for a typical heavy truck. An estimated 27 climbing lanes, involving 14.7 miles of the roadway would be involved. . These segments of the road would involve an estimated total of approximately 147.5 acres. (Refer to Appendix B for engineer's typical drawings of the proposed road improvements.)
- Minimize impacts to Cottonwood Wash's 100-year floodplain by adhering to the design standards for culverts, drainage, and storm water standards as set out in this section.
- Ditch grades would be no less than 0.5 percent to provide positive drainage and to avoid siltation.
- Drainage of the inside ditch and sidehill runoff would be provided.
- Water turn outs would be rock armored.
- In areas where steep slopes occur, proper road design and appropriate erosion control measures (e.g. stabilization barriers, water bars, silt fences, etc.) would be implemented to prevent down slope erosion. Design standards for these structures would be based on the following: Utah Pollutant Discharge Elimination System (UPDES) program; National Pollutant Discharge Elimination System (NPDES) Region 8 EPA; and, BLM/USFS 2007 Gold Book.
- Appendix B provides engineers' typical road cross section and design drawings.

2.1.2 OTHER PROJECT ELEMENTS

All staging areas would be located on state lands along the Seep Ridge Road and within the proposed ROW. Staging areas would accommodate stockpiled materials, equipment and vehicle parking and batch sites for processing of the paving material. To the extent reasonable, excavated cut and fill material will be used on site. Any additional needed mineral materials (gravel, sand, etc.) would be acquired from private, county, or state sources. No mineral materials would be acquired from federal lands. Any material delivered to these sites would be properly stored.

During periods of extreme wildfire conditions (i.e., prolonged dry periods with high temperatures, presence of dried or "flash fuels"), extreme caution would be used in performing reconstruction and/or upgrade activities. Woody debris, created by reconstruction activities, would be either removed from the site or mulched and redistributed over the disturbed area during the reclamation activities.

Sanitary facilities would be onsite at all times during construction and installation. Sewage would be placed in portable chemical toilets. The toilets would be pumped or replaced regularly utilizing a licensed contractor. Toilet contents would be delivered to an approved wastewater treatment facility in accordance with state and county regulations.

All refuse (e.g. trash and other solid waste, including cans, paper, etc.) generated during the reconstruction and upgrade activities would be contained in enclosed receptacles, removed from the location promptly, and hauled to an authorized disposal site. No potentially adverse materials or substances would be left onsite.

All project-related activities involving hazardous materials would be conducted in a manner that minimizes potential environmental impacts. Current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used in the course of construction and upgrade operations would be maintained on-site by the project supervisor.

No chemicals subject to reporting under SARA Title III (hazardous material) in an amount greater than 10,000 pounds would be used, produced, stored, transported, or disposed of in association with the Proposed Action. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of in association with the Proposed Action. Any spills of potential hazardous substances would be reported immediately to the appropriate surface managing agency (SMA) and regulatory authorities, and would be promptly cleaned up and removed to an approved disposal site.

Water would be used to control fugitive dust created during reconstruction and upgrade operations. The water would be secured by Uintah County from existing Water Right No. 41-3523. Information on this water right is outlined in Table 2.1-2.

Table 2.1-2. Source of Water for the Seep Ridge Road Paving Project

Owner	Utah Division of Water Resources Permit No.	Source	Permitted Amount (Acre-Feet)	State of Permit (Active or Expired)	Date
Uintah Water Conservancy District	41-3523	Green River	33,560	Active	8/07/1958

Utah Division of Water Rights. 2009

Construction of the proposed improvements to the road would require approximately 424 acre-feet of water over the 6-year period (or approximately 71 acre-feet per year). In accordance with the 1987 Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (USFWS 1987), this water right is a historic depletion (permitted prior to January 1988).

2.1.3 RECLAMATION

Reclamation would be completed as set out in the Reclamation Plan (refer to Appendix C).

2.1.4 MAINTENANCE AND OPERATION

On completion of the Proposed Action, the county would conduct regular inspections of the road and the ROW and complete needed repair and maintenance actions as scheduled or identified. As is the current practice, the Seep Ridge Road would be maintained and kept open year-round.

Upon completion of the proposed improvements to the road, the county would initiate a 5-year study to acquire baseline traffic volumes and accident data. The county would then continue to regularly monitor usage and traffic patterns on the Seep Ridge Road. If monitoring reveals at least a 25 percent increase in the number of animal:vehicle collisions over the established baseline, the county would reconsider the need to fence the ROW.

2.1.5 BEST MANAGEMENT PRACTICES AND APPLICANT-COMMITTED PROTECTION MEASURES

The actions described below would be implemented to reduce the potential environmental impacts of the Proposed Action. These Best Management Practices (BMPs) and applicant-committed protection measures are based upon guidelines developed by the BLM in consultation with the county and the appropriate SMA.

2.1.5.1 Cultural Resources

- A Class III cultural resources survey was conducted by an SMA-approved archaeologist during the months of March and April 2009. The area of potential effects (APE) for the new road improvements and construction of new road segments, as it applies to cultural resource impacts, consists of a 300 foot wide corridor extending 150 feet on both sides of the edge of the proposed road. This corridor was surveyed by archaeological technicians walking 45 feet apart in order to identify previously unrecorded cultural resources. In addition, previously recorded cultural resources within the APE were revisited during the survey. Prior to the cultural resource survey, a literature review was performed in order to collect information on previously recorded cultural resources in and around the APE. The literature review area extended 1,200 feet on both sides of the 300 foot corridor APE.
- Cultural resource sites determined eligible for listing on the National Register of Historic Places would be avoided by any surface disturbing activities associated with reconstruction operations where possible. Sites eligible for the National Register of Historic Places that cannot be avoided will be monitored during construction. Additionally, areas identified as having a high probability of encountering potentially significant subsurface archaeological materials and any eligible sites that are not directly impacted by construction but are within the 300 feet of the cultural resource APE would require a qualified archaeologist to monitor surface disturbance activities.
- In the event of discovery of cultural materials during the excavation and construction operations, disturbance actions would immediately cease at that location and the appropriate SMA would be notified. Specific mitigation would be developed by the SMA in consultation with the State Historic Preservation Officer, and would be implemented before construction work is resumed.
- The county would inform their employees, contractors and subcontractors about relevant federal regulations intended to protect cultural resources.

2.1.5.2 Paleontological Resources

- If paleontological resources are uncovered during ground-disturbing activities, the county would suspend all operations that would further disturb such materials and would immediately contact the appropriate SMA. A determination would be made by the SMA's authorized officer as to what mitigation may be necessary for the discovered paleontological material before construction can resume at that location.

2.1.5.3 Soils

- No construction activities would be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 3 inches deep in a straight line of travel, the soil would be deemed too wet to adequately support the equipment, and construction activities would cease until drier or frozen soil conditions exist.
- As stated in Section 2.1.1, the county would adhere to established federal and state road design and construction standards and implement BMPs that would minimize impacts to soil and water resources. These BMPs include proper grade, culvert size and placement, ditch grades, drainages, installation of water turn outs and storm water standards under current National Pollutant

Discharge Elimination System, specifically installation of stabilization barriers, water bars, silt fences, etc.)

2.1.5.4 Invasive Plants/Noxious Weeds

- Per the Weed Control Plan (refer to Appendix C), conduct a pre-construction noxious weed inventory along the entire ROW. The result of this inventory would include GPS location and associated field notes indicating the type and size of each infestation. This data would be formulated into a report and submitted to the appropriate SMA.
- Preparation of a Pesticide Use Proposal would be completed as required by the VFO Approved RMP. Control of invasive plants and noxious weeds on state and private lands would be consistent with direction from the appropriate SMA.
- All disturbed surface areas would be monitored annually for the presence of noxious weeds. If monitoring showed the presence of noxious weeds, the county would be responsible for treating these areas. Control measures would be conducted before seed set annually. Monitoring and treatment would be conducted annually until reclamation and weed ratification was deemed successful by the appropriate SMA.
- All vehicles and equipment coming from outside the Basin associated with the Proposed Action would be power washed to remove seed and plant materials before entering the Project Area.

2.1.5.5 Fish and Wildlife, Including Special Status Species Other than USFWS Candidate or Listed Species (e.g., Migratory Birds)

- Prior to any new surface-disturbing reconstruction activities between January 1 and August 31, all areas on BLM lands within 1.0 mile of the proposed surface disturbance would be surveyed for the presence of raptor nests. If occupied raptor nests are found, new surface disturbance related construction would not occur within the species-specific protective radius of the active nest during the species-specific nesting season, as set out in Attachment 2 the *Best Management Practices for Raptors and Their Associated Habitats in Utah* (BLM 2008, Appendix A).
- The road would be regularly inspected to remove wildlife carrion from the Seep Ridge Road, shoulders and ROW area to reduce the likelihood of vehicle collisions with carrion-feeding raptors and scavengers.

2.1.5.6 Livestock Grazing

- Where reconstruction activities cross existing livestock fences or would involve existing cattleguards, the following would be implemented:
    - All fences would be braced before being cut and a temporary gate would be installed. All fences would be restored to functional condition or replaced with like fencing immediately after project completion in that area to assure livestock do not trespass onto adjacent grazing allotments.
    - If the roadway project is determined to interfere with livestock operations, the county would work cooperatively with the appropriate SMA and the affected livestock operator to negotiate a resolution to the situation.
    - Upgrade to expand 3 existing cattleguards to 40 foot widths. Locations for these cattleguards are: SE/4SW/4 section 31, T12S, R22E; NE/4NE/4 section 23, T14S, R22 E; and NE/4NE/4 section 27, T15S, R23E.

- If the reconstruction activities would destroy or reduce the functionality of existing animal watering ponds/reservoirs (i.e., disrupt water from entering into the catchment ponds from either the drainage and/or apron area) within the immediate vicinity of the ROW, such structures would be replaced or restored to functional condition as determined appropriate by the SMA. Specifically, in coordination with the livestock operators and the appropriate SMA, the following specific actions would be completed:
    - Maintain up to 12 existing watering ponds/reservoirs that would be affected by the proposed upgrades. Site-specific maintenance activities on these sites would be determined by the appropriate SMA. No new surface disturbance would be associated with these maintenance activities.
    - Construct 1 new reservoir outside of the proposed ROW in the Sand Wash Allotment in section 26, T15S, R23E. The county would construct the new watering pond/reservoir to current construction standards set out in BLM Manual 9100. Estimated new surface disturbance associated with the new watering pond/reservoir would involve about 2 acres.
- Move the Monument Ridge Pasture Corral (currently located at the junction of the Seep Ridge and Monument Ridge Roads in the NW1/4NW1/4 section 26, T15S, R23E) approximately 350 feet east to a site outside the proposed ROW. The existing corral would be dismantled. The new corral would have the same dimensions as the current corral and would be built to current construction standards set out in BLM Manual 9100. Approximately 2 acres of new surface disturbance would be involved with this relocation.
- The county would install warning signs and would post advisory lowered speeds of 40 mph along the road to warn of free-roaming livestock and areas of concentrated wildlife use/travel.

2.1.5.7 Lands/Access

- Flag persons and signs will warn the public of any travel delays due to construction. Detours, if needed, would be appropriately marked and the general public notified in advance via public announcements of any closures of the Seep Ridge Road.
- The county acknowledges the existing authorizations for surface and possible buried pipelines located within the existing Seep Ridge Road ROW. If construction activities would affect the placement of any of these lines, the grantor would be consulted before any surface disturbance is initiated that could compromise the integrity of the pipeline. The county would work with the authorized operator to minimize disruptions to ongoing pipeline operations and ensure the continued functionality of the pipeline(s).
- All roads intersecting with the Seep Ridge Road would be restructured to provide safe access for heavy trucks and or vehicles pulling trailers. Intersections of the area's major roads with the Seep Ridge Road would be further enhanced by building to grade and installing paved "aprons" sufficient to allow safe and proper travel by slow-moving, low-slung vehicles and trailers.

2.1.5.8 Recreation

- The county would move the existing Buck Canyon kiosk (located at the head of Buck Canyon in the SE1/4SW1/4 section 30, T12S, R22E). The Buck Canyon kiosk site includes both an information kiosk and a self-contained rest room. These facilities need to be moved to allow for realignment of the proposed road. These structures would be relocated within the proposed expanded ROW, in close proximity to their current location, and involve approximately 1 acre.

- As with livestock grazing, the county would install warning signs and would post an advisory lowered speed limit of 40 mph along the road warning of areas of concentrated OHV use and recreational activity in the vicinity of existing recreation sites and known areas of dispersed camping.

2.1.6 SUMMARY OF THE PROPOSED ACTION

The dimensions of the Project Area would be 44.5 miles in length and 150 feet in width, involving 809.1 acres. All surface disturbing activities would be limited to these dimensions, i.e., no disturbance would occur outside the 150-foot width. Of the 44.5 miles, approximately 29.8 miles would accommodate 2 lanes of traffic and the remaining 14.7 miles would be increased to 3 lanes to provide climbing lanes for slow moving traffic. The total running surface of the proposed road would involve 150.84 acres (86.69 and 64.15 acres respectively for the 2- and 3-lanes). Thus, approximately 658.26 acres would be involved in areas of cut and fill and construction activities to provide ditches, shoulders, erosion control structures, etc. For the purposes of this EA, the Project Area includes the total 809.1 acres associated with the ROW; the proposed relocation of the Monument Ridge Pasture Corral and the construction of 1 watering ponds/reservoirs on federal lands, the estimated Project Area for the Proposed Action would involve a total of 813 acres. Table 2-1.3 provides a summary of the surface ownership, project dimensions and estimated surface disturbance associated with the Proposed Action.

Table 2-1-3. Summary of the Proposed Action's Project Dimensions and Estimated Surface Disturbance, by Surface Ownership

	Federal	State	Private	Total
Overall Dimensions				
Road (in miles)	30.5	12.7	1.3	44.5
Percent of Project	68.4	28.7	2.9	100
ROW Area (150' width)	550.0	234.1	25.0	809.1
Applicant-Committed Measures				
Watering Ponds	2	0	0	0
Relocation of Corral	2	0	0	0
Estimated Total Acres of Surface Disturbance	**554.0**	**234.1**	**25.0**	**813.1**

*Assumed this figure could include areas of cut and fill outside the proposed 150-ft ROW.

2.2 ALTERNATIVE A – NO ACTION

Under the No Action Alternative, the application for an amendment to the county's existing ROW UTU - 69125-35 would be denied, and the county would not be authorized to complete upgrades to the Seep Ridge Road outside of the existing 66-foot ROW width. The county would continue to complete needed maintenance to the existing native material roadway, ensuring the road remains open year-round. Water would be used during maintenance activities to control and/or eliminate fugitive dust. As with the Proposed Action water needed for such activities would be acquired from a Historic Depletion Source. The water right would be secured by Uintah County from a water right obtained in 1958 by the Uintah Conservancy District. Annual maintenance activities could require approximately 40 acre-feet of water per year. It is unlikely that the county would pave the existing roadway under its current ROW authorization because paving the existing roadway would not correct those road segments needing to be upgraded to current safety design standards.

2.3 ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM FURTHER CONSIDERATION

Three alternatives were initially considered but eliminated from further consideration. These alternatives were:

2.3.1 AN ALTERNATIVE TO INCLUDE THE ADDITION OF A 10-FOOT ATV/MOUNTAIN BIKE TRAIL WITHIN THE EXPANDED ROW OF THE PROPOSED ACTION

- The trail was not identified as a key element of the county's need for the Proposed Action.
- The ATV/mountain bike trail created more safety concerns and heightened possible conflicts between the ATV and the mountain bike users of the trail.

2.3.2 AN ALTERNATIVE TO PLACE ALL-WEATHER BITUMINOUS PAVEMENT FROM THE NORTHERN TERMINUS TO THE INTERSECTION OF THE SEEP RIDGE ROAD WITH BUCK CANYON

- This alternative did not completely meet the need of the proposal as it did not resolve all the safety concerns portions of the Seep Ridge Road south of Buck Canyon.
- This alternative did not factor in the expected increase in oil and gas traffic in the Book Cliffs area.

2.3.3 AN ALTERNATIVE TO FENCE THE ENTIRE ROW TO EXCLUDE LIVESTOCK AND/OR WILDLIFE

- Segments of comparable paved, 2-lane highways in the Uintah Basin, portions of U.S. Highway 191 in Indian Canyon and portions of Colorado Highway 139 in Douglas Pass are unfenced.
- Although accident records are kept for this road, no animal/vehicle collisions data are known. This absence of data would be corrected by the county's proposed 5-year study (refer to Section 2.1.4). They have identified criteria under which fencing the ROW would be considered.

This page intentionally left blank.

3.0 - AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter presents the potentially affected environment (i.e., the physical, biological, social, and economic values and resources) of the Project Area, and provides the baseline for comparison of impacts/consequences described in Chapter 4.

The Project Area is characterized by low rolling hills and rock outcrops representative of the high desert plains at the lowest to mid-elevations and tabletops with deeply incised drainages and canyons at the highest elevations. The vegetation in the Project Area is typical of the Uinta Basin floristic region, where precipitation and soil parent material are controlling factors for plant composition. Vegetation ranges from sparse, desert shrubs and grasses in the lowest elevations to woodland and conifer forest areas at the highest elevations. Elevations for the Project Area range between 5,050 feet, at the northern end of the Project Area, and approximately 8,000 feet at its southern end, at the Uintah-Carbon County line.

Resources considered in this EA include the environmental elements identified as "PI" in the IDT Analysis Record Checklist (refer to Appendix A). Other environmental elements were considered but dismissed from further analysis because the resources are not present in the Project Area, because the alternatives would have no measurable effect on the environmental element or issue, or because the specific actions and BMPs set out in the county's Proposed Action, described in Chapter 2, would reduce the impacts of the alternatives to negligible levels. Dismissed issues are listed in the IDT Analysis Record Checklist, along with the rationale for their dismissal.

3.2 AIR QUALITY

3.2.1 WINDS AND ATMOSPHERIC STABILITY

The climate in the Project Area is characterized as arid, with cold winters and hot summers. Annual precipitation ranges from 8 inches (at the northern end of the Project Area) to more than 24 inches (at the southern end of the Project Area) and is dependent largely on elevation and aspect. Temperature inversions are common in the lower elevation areas of the Uinta Basin. Inversions commonly occur in winter when snow accumulation on the ground combines with short daylight hours. In summer, inversions dissipate rapidly when early morning sunlight warms the air near the ground surface. Inversions can hinder air pollutant dispersion by preventing dust and emissions from mixing with the ambient air in the vertical direction (BLM 2008c).

The transportation and dilution of air pollutants, including fugitive dust, are primarily a function of wind speed and direction. Winds dictate the direction in which pollutants are transported. As wind speed increases, the dispersion of emitted pollutants also increases, thereby reducing pollutant concentrations. Monthly wind data recorded from 1997 to present at the BLM's Upper Sand Wash Remote Access Weather Station (RAWS), approximately 0.5 miles north of the Seep Ridge Road in section 10 T13S, R22E, indicates that the prevailing winds are out of the south-southwest.

3.2.2 AIR QUALITY

National and Utah Ambient Air Quality Standards (NAAQS) have been promulgated for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and

particulate matter less than 10 or 2.5 microns in aerodynamic diameter (PM_{10} and $PM_{2.5}$). Existing air quality in the region, including the Project Area, is acceptable based on U.S. Environmental Protection Agency (EPA) standards for the protection of human health. The Uinta Basin is designated as an "attainment area", meaning that the concentrations of criteria pollutants in the ambient air are less than the NAAQS. Site-specific air quality monitoring data are not available for the Project Area; however, background criteria pollutant concentrations for the Uinta Basin are relatively low and consistent with a rural area having low levels of industrial development (UDEQ-DAQ 2005).

Under the Prevention of Significant Deterioration (PSD) provisions of the Federal Clean Air Act (CAA), incremental increases of specific pollutant concentrations are limited above a legally defined baseline level. The area surrounding the Project Area is designated as PSD Class II. For Class II areas, incremental increases in ambient pollutant concentrations are allowed as a result of controlled growth.

The EPA has primary regulatory authority for implementing various environmental statutes established by Congress. EPA retains the authority for implementing the CAA and the permitting and operational compliance of air emission sources within the Indian Country airshed which encompasses the Project Area.

Fugitive dust is the most prominent air pollutant in the region and in the Project Area, and is intermittent depending on winds and dust-causing activities. The VFO Approved RMP states that the Vernal Planning Area, including the Project Area, is located in a region designated as unclassifiable for Particulate Matter less than 10 microns in diameter (PM_{10}) (BLM 2008a). Particulate matter varies greatly in shape, size and chemical composition, and can be made up of many different materials, including dust.

3.3 CULTURAL RESOURCES

A Class I literature review was conducted to identify the extent of previous cultural resource surveys within the Project Area and to determine if any known cultural resource sites are present in the immediate Project Area. Record searches for this project were performed by archaeologists accessing the records of the Utah Division of State History (UDSH) in Salt Lake City and the BLM VFO. The record searches resulted in the identification of numerous previously conducted cultural resources studies and known cultural resource sites within the Project Area. While portions of the existing Seep Ridge road had been inspected for cultural resources during previous studies, the BLM determined that additional field studies were needed. As such, qualified archaeologists conducted intensive level pedestrian surveys (i.e., walked over the ground looking for archaeological materials) along the entire project corridor during March and April 2009. The cultural resource survey area is approximately 47 miles long and consists of the proposed roadway improvements and new road segments. The cultural resource survey consisted of 100% of the 300 foot wide corridor that extends 150 feet on both sides of the proposed edge of road. All cultural resources newly identified during the survey were recorded, and all previously recorded cultural resources within the Area of Proposed Effect (APE) were revisited. In addition to the survey for the roadway corridor, a single 20-acre pad for one new pond to be constructed and a single 40-acre pad for the relocation of the Monument Ridge Pasture Corral were surveyed April 29, 2009 for cultural resources.

As a result of both previous studies and studies conducted specifically for the Proposed Action, a total of 9 prehistoric and historic sites were identified and recorded in the cultural resources study area. One site, Site 42UN005506, is located within the APE but was not updated for the current project because it was recorded in 2006 and the site recording was still adequate. Prehistoric site types identified include lithic scatters and campsites. Historic site types include the Buck Canyon Road and campsites (Table 3.3-1). Four of the sites identified within the APE have been determined to be or are recommended eligible for

the National Register of Historic Places. As such these sites must be considered under the NHPA, and Federal agencies are required to evaluate and consider the effects and impacts to these resources. Sites for which a formal eligibility determination has not yet been made, including three sites recommended as not eligible, will be treated as eligible during mitigation efforts because their eligibility recommendations will not be reviewed by the Utah State Historic Preservation Office prior to implementation of the Proposed Action. A brief description and national register eligibility status for all sites within the project ROW are provided in Table 3.3-1.

Table 3.3-1. Cultural Resources Recorded or Updated within the Area of Proposed Effect (APE)

Site No.	Description	National Register Eligibility
42UN000646	Prehistoric lithic scatter composed of debitage (flakes) with tools in a 29 meter x 31 meter area.	*Recommended Not Eligible
42UN001782	Prehistoric campsite composed of hearth features and debitage in a 90 meter x 20 meter area.	Determined Eligible
42UN002487	Historic Buck Canyon Road with no associated historic artifacts.	Determined Eligible
42UN005506	Historic campsite composed of tin cans, glass, several diagnostic artifacts, and modern debris in a 56 meter x 30 meter area.	Determined Not Eligible
42UN007040	Multi-component site consisting of an historic debris scatter and small prehistoric flake scatter. Several diagnostic historic artifacts and historic features with one historic and prehistoric artifact concentration are present. Total site area is approximately 50 by 50 meters.	Determined Eligible
42UN007041	Historic debris scatter with several diagnostic artifacts in an approximate 25 meter squared area.	Determined Not Eligible
42UN007633	Prehistoric flake and ceramic sherd scatter with chipped stone tools in an approximate 57 meters by 42 meter area.	*Recommended Eligible
42UN007634	Multi-component site consisting of an historic debris scatter and prehistoric flake scatter. Several diagnostic historic artifacts and one prehistoric flake concentration are present. Total site area is approximately 79 by 67 meters.	*Recommended Not Eligible
42UN007635	Historic Monument Ridge Road Corral with no associated artifacts. Corral measures 154 feet x 109 feet	*Recommended Not Eligible

*Sites will be treated as Eligible during mitigation efforts because their eligibility recommendations will not be reviewed by the Utah State Historic Preservation Office prior to implementation of the Proposed Action.

In addition to the sites that have been documented as part of the 2009 cultural resource survey (Table 3.3-1), one possibly historic archaeological site, the Monument Ridge Pasture Corral, was fully documented as part of the cultural resource inventory. Even though this site is located outside of the project ROW, it was documented because it will be dismantled and moved as part of the Proposed Action. The corral will be moved to a 40-acre block located in section 26, T15S, R23E, and this block was surveyed for cultural resources April 29, 2009, and not cultural resources were identified. In addition, one 5-acre block was surveyed April 29, 2009, for the location of one new livestock watering pond/reservoir. This block is located in section 26, T15S, R23E.

3.4 PALEONTOLOGY

The Project Area contains three mapped bedrock geologic units (Cashion 1973), all of which are of middle Eocene age: lower Uinta Formation, and Parachute Creek and upper Douglas Creek members of the Green River Formation. In addition to these units, Holocene-age alluvium and colluvium were observed during the field survey conducted for this project. The geology of these units is described in greater detail in the technical reports prepared for the paleontological resource survey (Daitch et al. 2008).

The paleontological sensitivity of each geologic unit to be affected was evaluated using the Potential Fossil Yield Classification System (PFYC), adopted as policy by the BLM (BLM 2007). This system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically-important invertebrate and plant fossils and their sensitivity to adverse impacts. This classification is applied to a geologic formation, member, or other distinguishable unit. This new classification system recognizes that although significant fossil localities may occasionally occur in a geologic unit, a few widely spaced localities do not necessarily indicate a higher class. Instead, the relative abundance of significant localities is intended to be the major determinant for the class assignment. Table 3.4-1 outlines the PFYC designations for the affected geologic units for this project.

Table 3.4-1. Paleontological Sensitivities of Geologic Units within the Project Area

Geologic Unit	Map Symbol*	Age	Typical Fossils	PFYC
Alluvium and colluvium	Qa	Holocene	Unfossilized remains of modern taxa, too young to contain fossils.	Class 2
Uinta Formation, lower Member	Tul	Eocene	Locally abundant plants (leaves, seeds, wood); invertebrates (insects, mollusks); and a highly diverse and scientifically important vertebrate fauna (reptiles, mammals)	Class 5
Green River Formation, Parachute Creek Member	Tgp	Middle Eocene	Ichnofossils (insect, bird and mammal tracks, inferred spider web with spiders and insects, and bird feathers); invertebrates (insects and mollusks); plans (leaves and wood); vertebrates (fish and less common reptiles and mammals)	Class 4/5
Green River Formation, upper Douglas Creek Member	Tgdu	Middle Eocene	Plants (leaves and wood); invertebrates (mollusks and arthropods); vertebrates (uncommon but include fish, reptiles, mammals)	Class 3

*Map abbreviations from Cashion 1973.

Daitch et al. conducted a field survey for the Proposed Action in 2008. A summary of their findings included:

- A total of 7 previously recorded fossil localities occur within one mile of the area of potential effect (APE) of the Proposed Action. Of these seven, only one occurs within the APE. This locality was identified during 2005 and consists of turtle shell fragments and bone fragments, possibly mammal.
- Three new fossil localities and five new fossil occurrences were identified and recorded from both the Uinta Formation and Parachute Creek Member of the Green River Formation (Daitch et al 2008). Fossils from the localities included plant leaf impressions and mammal bone fragments. Fossil occurrences included fragmentary plant fossils, wood impressions, turtle shell fragment and indeterminate bone fragments.

3.5 SOILS

The development of soils is governed by many factors, including climatic conditions (the amount and timing of precipitation, temperature, and wind), the parent material that the soil is derived from, topographic position (slope, elevation, and aspect), geomorphic processes, and vegetation type and cover. For evaluation of potential environmental impacts to soils, the key attributes are erosion potential and ease of reclamation after soil disturbance.

Soil mapping conducted by the U.S. Department of Agriculture's National Resource Conservation Service (USDA-NRCS) typically provides information about each soil type within the mapped area that can be used to evaluate the erosion potential and reclamation potential of each soil unit. These data include the slope and hydrologic group for erosion potential, and soil pH, salinity, clay content, and sodium-adsorption ratio for reclamation potential.

The USDA-NRCS soil data for Uintah County identifies 34 soil map units within the Project Area. A summary of these soils and their key properties and characteristics are provided in Appendix D (USDA-NRCS 2006 and 2007). Exhibit 2 in Appendix G provides a map of the soils involved in the Project Area.

Of the 34 identified soil map units, 11 are characterized as having their maximum slopes (40 percent slopes or greater) within the range classified as being highly susceptible to erosion. These soils primarily include rock outcrop formations that are resistant to erosion and/or contain slopes with soils that are defined as having low to moderate wter erosion potential ($K_w < 0.20$). Soils map units with a maximum slope greater than 40 percent are 12, 36, 39, 85, 151, 198, 233, 234, 259, 263, and 264.

Of the soil map units identified within the Project Area, nine have a water erosion potential (K_w) value within the range defined as having high water erosion potential (or $K_w \geq 0.32$). Soil map units with a maximum K_w greater than 0.32 are: 21, 29, 31, 78, 138, 257, 263, 266, and 270.

Most soil map units within the Project Area with moderate to high water erosion potential ($K_w \geq 0.20$), have maximum slopes ranging from 2 to 25 percent (low to moderate susceptibility to erosion). Soil map units that are most susceptible to erosion based on both slope and water erosion potential values are soil map units 29, 31, 42, and 201and involve approximately 130 acres, or 16 percent of the Project Area.

Soil map units 29 and 31 are the most susceptible to erosion of the 30 soil map units identified within the project corridor; as both have components with K_w ranging from 0.15 to 0.37 (moderate to high erosion potential) and slopes ranging from 2 to 25 percent (low to moderate susceptibility to erosion). However, soil map units 29 and 31 are characterized as "well drained," indicating that only a precipitation or run-off event that is large enough to exceed the relatively high drainage capacity of the soil is likely to cause significant erosion. Soil map units 42 and 201 have components with K_w ranging from 0.05 to 0.24 (low to moderate erosion potential) and slopes ranging from 2 to 25 percent (low to moderate susceptibility to erosion). Components of soil map units 42 and 201 are also characterized as "well drained" or "somewhat excessively drained.

Approximately 62 percent of the soils involved in the Project Area exhibit channery or parachannery soil textures. These textures are the major contributor to the very fine fugitive dust or "flour dust" conditions that occur along the Seep Ridge Road during dry periods.

3.6 WATER QUALITY (SURFACE/GROUND)

3.6.1 HYDROLOGIC SETTING

Streams can be classified as ephemeral, intermittent, or perennial. Ephemeral streams are those streams that flow only in direct response to a rainfall or runoff event and often have periods of no flow. The amount and timing of flow in ephemeral streams is dependent on the quantity and timing of precipitation, the watershed size, evaporation and transpiration rates, and the permeability of the surface materials. Intermittent streams receive some groundwater inflows in addition to direct surface runoff and contain flow at least part of the year in some portion of the stream. Perennial streams are streams and rivers that flow all year.

The Uinta Basin is drained by two perennial rivers: the Green River and the White River. The Green River originates in Wyoming along the Continental Divide and joins the Colorado River south of the Project Area. The White River originates in the mountains of Colorado, and drains the eastern portion of the Uinta Basin. These rivers receive runoff from several perennial streams and numerous ephemeral washes and intermittent streams. The largest of these streams near the Project Area are Hill Creek, Willow Creek and Bitter Creek.

Groundwater would not be affected by the Proposed Action or alternative and is not discussed further in this EA.

3.6.2 SURFACE WATER

Exhibit 3, in Appendix G, shows the surface water features in the Project Area. There are no perennial streams within the Project Area. Cottonwood Wash and Sand Wash and their ephemeral tributaries drain the northern and eastern portions of the Project Area. Major ephemeral drainages for the southern portion of the Project Area include Indian Ridge Canyon, Seep Canyon, PR Canyon and Black Horse Canyon, which drain into Sweet Water Canyon and then Bitter Creek. Cottonwood Wash, Sand Wash and Bitter Creek ultimately drain into the White River, approximately 12 miles to the north and northeast of the Project Area. Sunday School Canyon and Main Canyon are the major drainages on the west side of the Project Area. These drainages empty into the perennial Willow Creek, which ultimately drains into the Green River, approximately 7 miles to the northwest of the Project Area. With the exceptions of Bitter Creek and Willow Creek, all other streams affected by the Proposed Action are ephemeral and only flow in direct response to rainfall events.

3.6.2.1 Stream Classification

The Utah Water Quality Board classifies Utah surface water resources according to quality and degree of protection (UDEQ 2000). All streams and water bodies in Utah are assigned to one of five classes. Within the Project Area, all streams are classified as Class 2B, 3A, and 4. Class 2B streams are protected for secondary contact recreation such as boating, wading, or similar uses. Class 3A streams are protected for cold water species of game fish and other cold water aquatic life. Class 4 streams are protected for agricultural uses including irrigation of crops and stock watering.

3.6.2.2 Surface Water Flow

Two United States Geologic Service (USGS) gauging stations are located down-gradient from the Project Area on the White River. Table 3.6-1 presents summary flow data for the stations.

Table 3.6-1. Stream Flow Data for USGS Gauging Stations

USGS Gauging Station Name and Number	Range of Monthly Mean Discharge (cfs)	Peak Daily Discharge (cfs)	Mean Annual Discharge (cfs)	Period of Record
Sand Wash near Ouray, Utah 09306870	0.00 (January, May, June, November, and December) to 0.19 (February)	20 (February 20, 1980)	0.034	October 1974 – September 1981
Sand Wash at Mouth near Ouray, Utah 09306872	0.00 (November and December) to 2.7 (March)	86 (March 29, 1979)	0.417	October 1976 – September 1981

Source: USGS 2008.

Flow was measured in Sand Wash from October 1974 to September 1981. Flow is only present following cloudburst storms and during the snowmelt period. For the upstream station on Sand Wash, zero flow was recorded approximately 97 percent of the time during the brief period of record. The peak daily flow of 20 cubic feet per second (cfs) occurred on February 20, 1980. Flow was only present during the months of February – April (from snowmelt) and July – September (from storms) at this station. At the mouth of Sand Wash, zero flow was recorded approximately 95 percent of the time. The peak daily flow over the period of record was 86 cfs on March 29, 1979. Annual sediment loading of the White River is approximately 1,680,000 tons/year (Lentsch, et al. 2000).

Two USGS gauging stations are also located on the Green River. These data are useful for characterizing the total annual runoff from the Uinta Basin. Mean monthly stream flows at USGS station 09307000 on the Green River at Ouray range from 1,925 cfs to 17,000 cfs, and peak in June. Mean monthly stream flows further downstream at the town of Green River (USGS station 09315000) range from a low of 2,301 cfs to a high of 18,620 cfs. Annual sediment loading of the Green River is about 9,684,000 tons (Lentsch, et al. 2000).

3.6.2.3 Surface Water Quality

The EPA has established primary and secondary drinking water standards (EPA 2003) for approximately 90 water contaminants as required by the Safe Drinking Water Act, as amended in 1996, and Clean Water Act (CWA) of 1987, as amended. These regulations specify maximum contaminant levels (MCLs) and secondary standards for specific contaminants. The MCLs are health-based. Although these MCLs legally apply only to public drinking water supplies, they are also useful as general indicators of water quality. The secondary standards are for constituents that cause cosmetic effects (such as skin or tooth discoloration) or aesthetic affects (such as taste, odor, or color) in drinking water. The CWA delegated the administration of these standards to cooperating States and Tribes, so long as the State and Tribal standards were at least as stringent as the federal standards. In the Project Area, the EPA has primacy.

Water quality sampling has been conducted at USGS stations 09306870 and 09306872 on Sand Wash. Three samples were collected at the upper station and one sample was collected at the lower station. Water in Sand Wash, when present, can be described as sodium bicarbonate-sulfate-chloride type waters with low hardness, alkaline pH, and moderate SAR. Aluminum and iron exceeded standards for one sample each.

There are no streams listed on the State's Section 303(d) list within the Project Area.

3.7 FLOODPLAINS

The VFO Approved RMP directs that no surface disturbance or occupancy will be allowed within active floodplains, or 100 meters (328 feet) of riparian areas. Exceptions to this management prescription may be authorized if there are no practical alternatives, impacts could be fully mitigated, or the action is designed to enhance the riparian resources (BLM 2008a).

Identified 100-year floodplain found within the Project Area occurs along the West Fork of Cottonwood Wash, and have been designated by FEMA as a Zone A (refer to Exhibit 3 in Appendix G). This designation means that these areas are subject to inundation by the 1-percent-annual-chance flood event generally determined using approximation methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are provided.

In 2008, Morrison-Maierle, Inc. (MMI) examined the Project Area for the presence and extent of wetlands, riparian areas, and waterways. The investigation resulted in the identification of 16 non-wetland waterways (ephemeral drainages) crossed by the existing Seep Ridge Road using culverts. No areas exhibiting hydric soils, hydrophytic vegetation, and hydrology indicators were identified throughout the Project Area; and, no wetlands were delineated. Two of the 16 ephemeral drainages are of a size to be named, i.e., the West and East Forks of Cottonwood Wash. The remaining 14 ephemeral drainages are unnamed.

Ten of the 16 ephemeral drainage crossings are associated with the West and East Forks of Cottonwood Wash and tributaries to these features are located between mile markers 40 and 45. Three of the remaining ephemeral drainages are located north of the West Fork and East Fork Cottonwood Washes (between mile markers 52 and 55) and three drainages are located south of these washes (at approximately mile markers 27 and 34). The ephemeral drainages identified within the Project Area were preliminarily observed to be jurisdictional (federally-regulated by the U.S. Army Corps of Engineers) as the aerial photos and topographic maps indicate that these landscape features have the potential to convey water from storm events down-gradient to the White River.

With the exception of the West and East Forks of Cottonwood Wash, the waterways associated with the Project Area exhibit some scouring and intermittent bed and bank with upland vegetation growing in the drainage bottoms (predominantly greasewood (*Sarcobatus vermiculatus*), big sagebrush (*Artemisia tridentata* var *tridentata*) and rubber rabbitbrush (*Chrysothamnus nauseosus* spp). The drainages associated with the West and East Forks of Cottonwood Wash exhibit a defined bed and bank with a predominantly unvegetated channel.

3.8 VEGETATION, INCLUDING INVASIVE PLANT AND NOXIOUS WEEDS, SPECIAL STATUS PLANT SPECIES AND FORESTRY/ WOODLANDS

3.8.1 GENERAL VEGETATION

Vegetation in the Project Area is dependent on soils, topography, aspect, elevation and precipitation. The predominant vegetation communities in the Project Area are briefly described below. Table 3.8-1 quantifies the total acres of the Project Area by vegetation community. Exhibit 4, in Appendix G, depicts the broad vegetation communities involved with the Project Area.

Table 3-8.1 Vegetation Communities In the Seep Ridge Road Project Area

Vegetation Community	Estimated Acres within Project Area	Percent of Project Area
Mixed Desert Shrub	172	21
Wyoming Sagebrush	292	36
Pinyon-Juniper-Sage/Woodland	284[1]	35
Montane Brush/Woodland	65	8
Estimated Total	813[2]	100

[1]Includes 3 acres outside of the proposed ROW for the two proposed watering ponds (reservoirs) and 2 acres outside of the proposed ROW for relocation of the Monument Ridge Pasture Corral
[2]Calculation does not include the existing roadway surface (142.9 acres)

A general discussion of the vegetation communities follows. Vegetation in the Project Area is dependent on soils, topography, aspect, elevation and precipitation.

Beginning at the northern end of the Project Area, the area of lowest elevation, is the mixed desert shrub community. This community is associated with shallow clay-loam and shaley to deep sandy soils. This community is widely variable in its composition and dominance, but may be characterized by shadscale (*Atriplex confertifolia*), Gardner saltbush (*A. gardeneri*), green rabbitbrush (*Chrysothamnus viscidiflorus*) and greasewood. This community provides open winter grazing areas for livestock, pronghorn antelope and wintering big game. Reclamation potential is poor due to poor soil structure, little topsoil and low precipitation.

The sagebrush community (*Artemisia tridentata* var *wyomingensis*) is associated with moderately deep sandy-loam to gravelly-loam soils associated with the Green River and Uinta formations. The majority of this community is associated with the middle portion of the Project Area. Other sagebrush sites include the moderately-deep alluvial soils in higher elevation drainages in the pinyon-juniper-sage/woodland community. The majority of this community can be characterized as mature to old age stands of sagebrush with varying compositions of understory vegetation. Dominate understory vegetation include a variety of perennial grasses such as Sandberg's bluegrass (*Poa secunda*), needle-and-thread grass (*Stipa comata*), and Indian ricegrass (*Oryzopsis hymenoides*). Numerous shrub and forb species include fleabanes (*Erigeron* spp.), milkvetch (*Astragalus* spp.), rabbitbrush (*Chrysothamnus* spp.), winterfat (*Ceratoides lanata*), and Mormon tea (*Ephedra* spp). This community provides habitat for big game and numerous upland and avian wildlife species. Potential for successful reclamation following disturbance is moderate, depending on topsoil depth and texture and total annual precipitation.

The pinyon-juniper-sage/woodland community is associated with the shallow shaley and stony hillsides and ridges located throughout the middle and southern portion of the Project Area. Utah juniper (*Juniperus osteosperma*) and pinyon pine (*Pinus edulis*) occur on almost all slopes and aspects within the community. At lower elevations, pinyon decreases and Utah juniper dominates the overstory. Associated understory species include black sage (*Artemisia tridentata* spp *nova*), desert buckwheat species (*Eriogonium* spp.), Mormon tea (*Ephedra* spp.) and bull grass (*Elymus salina*). This community provides important habitat, including thermal cover, for numerous upland and avian wildlife species and big game. Potential for successful reclamation in this community is low to moderate, depending on depth of topsoil and total annual precipitation.

The montane brush/woodlands community occurs at the highest elevations at the southern end of the Project Area, occurring on all aspects on soils ranging from shallow sandy and stony loams to moderately deep mountain loams. In addition to pinyon woodlands, mountain mahogany (*Cercocarpus montanus*), snowberry (*Symphoricarpus oreophilus*), Utah juniper (*Juniperus osteosperma*) dominate the overstory.

Oregon grape (*Berberis repens*) rosy everlasting (*Antennaria rosea*) and bluebunch wheatgrass (*Pseudoroegneria spicata*) dominate the understory. Potential for successful reclamation in this community is low to moderate, depending on amount and depth of topsoil.

3.8.2 INVASIVE PLANTS AND NOXIOUS WEEDS

The most common invasive species in the Project Area are Russian thistle (*Salsola iberica*) and halogeton (*Halogeton glomeratus*). African mustard (*Malcolmia africana*), a newly emerging weed species, may also be present in the Project Area. Salt cedar (*Tamarix ramosissima*), cheatgrass (*Bromus tectorum*), and Russian olive (*Elaeagnus angustifolia*) are Uintah County listed noxious weeds that occur in the Project Area along drainages, ponds, and sites where water collects along roads.

The State of Utah has designated 18 noxious weed species that must be controlled under Utah Noxious Weed Act R68-9, Utah Code Annotated Title 4 Chapter 17. The definition for a "noxious weed" in Utah is any plant that has been determined to be especially injurious to public health, crops, livestock, land or other property (Utah Code Annotated Title 4 Chapter 17).

In addition to the 18 state-designated noxious weed species, Uintah County has designated two additional noxious weed species that must be controlled under the Uintah County Weed Control Policy (Billings 2008). A "county noxious weed" is defined as a plant that is not on the State noxious weed list, but is especially troublesome in a particular county and is declared by the county legislative body to be a noxious weed within its county (Uintah County Weed Department 2008).

A field investigation was conducted in July 2008 to inventory, collect and evaluate baseline biological data within and adjacent to the Project Area (MMI 2008). One state-listed noxious weed, field bindweed (*Convolvulus arvensis*), was identified within the existing ROW in a few scattered patches on the road's shoulders, concentrated within previously disturbed areas.

The Uintah County Weed Department has identified 14 invasive weed species within the County. Invasive species are not required by law to be controlled but are a high priority for control. The most common weed locations include disturbed areas such as well pads, roadsides, pipeline ROWs, adjacent washes, and areas where grazing has removed native species. Roads facilitate biological invasion, where disturbed roadside habitats are invaded by exotic invasive plant and animal species, and weeds are dispersed by wind, water, vehicles, and other human activities.

Two invasive weed species were identified within and adjacent to the proposed Project Area during the July 2008 field investigation: Black henbane (*Hyoscyamus niger*) and halogeton. Black henbane was identified in a few small isolated patches associated with previously disturbed areas. Halogeton was extensively spread along the entire roadside, as well as in previously disturbed areas adjacent to the roadside.

3.8.3 SPECIAL STATUS PLANT SPECIES

Appendix E lists the threatened, endangered, candidate, and BLM-sensitive plant species that potentially occur within the BLM public lands, along with each species' location/habitat, and whether each species has been eliminated from detailed analysis in this document due to known occurrence within the Project Area.

Appendix E lists two plant species that would be potentially involved with the project. They are the clay reed-mustard and the Graham beardtongue.

Clay reed-mustard

Known occupied habitat for clay reed-mustard (*Schoenocrambe argillacea)*, a federally-listed as threatened species, is known to occur at two locations near the ROW: one population is located approximately 1,325 feet outside of the ROW, and the other population is located about 3,400 feet outside of the ROW. Habitat for this species is limited to the contact zone between the upper Uinta and Green River Shale formations. Potential habitat occurs on steep hillsides and canyon walls associated with Willow Creek (located west and outside the Project Area).

Graham beardtongue

Known occupied and potential habitat for Graham beardtongue (*Penstemon grahamii)*, a BLM sensitive species, is located within and adjacent to the existing Seep Ridge Road. Habitat for Graham beardtongue is limited to oil shale outcrops on knolls and talus in semi-barren mixed desert shrub and pinyon-juniper sage/pinyon-juniper woodland vegetative habitats from 4,600 to 6,700 feet in elevation.

3.8.4 WOODLAND/FORESTRY

Woodland resources comprise lands producing forest tree species that may be used as non-saw timber products and sold in units other than board feet. Woodland resources begin at mid-elevations of the Uinta Basin, where sagebrush communities give way to pinyon pine and juniper (between 5,000 and 8,000 feet in elevation). Timber resources including ponderosa pine (*Pinus ponderosa*), quaking aspen (*Populus tremuloides*), Douglas fir (*Pseudotsuga menziesii*) and minor quantities of spruce (*Picea spp.*), white fir (*Abies concolor*), limber pine (*Pinus flexis*) and subalpine fir (*Abies bifolia*) occur at the southern most extent of the Project Area. Commercially valuable woodland resources and saw timber may be found within the mountain browse and pinyon-juniper woodlands associated with the Project Area. These two communities involve an estimated 349 acres (or about 43 percent) of the Project Area. BLM has no current data to estimate the quantity of woodland/forestry products that could exist on these lands.

The BLM has conducted extensive vegetation conversion projects in the Book Cliffs area, including areas adjacent to or near the Seep Ridge Road. These projects have converted pinyon-juniper woodlands to open grass and shrub parks to achieve management goals and objectives for wildlife, livestock, soils and as fire fuel reduction measures. The BLM conducts firewood sales and competitive timber sales in the Book Cliffs area to further its goals and objectives for woodland/forestry management.

3.9 WILDLIFE AND FISHERIES, INCLUDING SPECIAL STATUS ANIMAL SPECIES

3.9.1 GENERAL WILDLIFE

The Project Area supports a variety of general wildlife species. Species that occupy the Project Area are typically generalist species that are accustomed to a moderate to high amounts of human activity (including vehicular traffic) due to the oil and gas industry in the project's vicinity. Small mammal species that are expected to occur throughout the Project Area include, but are not limited to, the cottontail rabbit (*Sylvilagus spp.*), black-tailed jackrabbit (*Lepus californicus*), white-tailed prairie dog (*Cynomys leucurus*), coyote (*Canis latrans*), badger (*Taxidea taxus*), striped skunk (*Mephitis mephitis*), western spotted skunk (*Spilogale gracilis*), and other rodent species. Reptiles and amphibians potentially found in the region include the garter snake (*Thamnophis elegans vagrans*), great basin gopher snake (*Pituophis catenifer deserticola*), great basin spadefoot toad (*Scaphiopus intermontana*), western whiptail

(*Cnemidophorus tigris*), sagebrush lizard (*Sceloporus graciosus*), and short-horned lizard (*Phymosoma douglassii*) (BLM 2008a).

Although all of these species are important members of wildland ecosystems and communities, most are common and have widespread distributions within the Uinta Basin. Consequently, the relationships of most of these species to the proposed development are not discussed in the same depth as those species that are threatened, endangered, candidate, sensitive, of special economic interest, or are otherwise of high interest or unique value.

3.9.2 BIG GAME

Four big game species are potentially found within the Project Area: pronghorn antelope (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus)*, and American bison (*Bison bison*). American bison occur on historical Uintah and Ouray Indian Reservation lands and were recently introduced by UDWR to the Book Cliffs area.

The Seep Ridge Road is located within the Book Cliffs Wildlife Management Unit (WMU). The Book Cliffs WMU encompasses the southern portion of Uintah County and extends into the northern portion of Grand County. The northern boundary of the Book Cliffs WMU is the White River from the Utah-Colorado border to its confluence with the Green River (approximately 2 miles south of Ouray, Utah). The eastern Book Cliffs WMU boundary is the Green River from the White River terminus south to the town of Green River. The southern Book Cliffs WMU boundary extends east from the town of Green River along I-70 to the Utah-Colorado border, which serves as the eastern boundary of the WMU. The Bitter Creek Subunit of the Book Cliffs WMU constitutes the northern portion of the WMU, extending (roughly) from the confluence of Coal Creek with the Green River east to the Uintah County-Grand County border at the state line.

The Project Area includes various types of seasonal ranges (e.g., year-long, fawning, winter) as identified by the UDWR. UDWR ranges are ranked according to their relative biological value and are defined in detail below. Under the VFO Approved RMP, the BLM has committed to managing big game ranges as defined by the UDWR (BLM 2008a).

- *Crucial:* Habitat on which the local population of a wildlife species depends for survival because there are no alternative ranges or habitats available. Crucial value habitat is essential to the life history requirements of a wildlife species. Degradation or unavailability of crucial value habitat will lead to significant declines in carrying capacity and/or numbers of the wildlife species in question.
- *Substantial:* Habitat that is used by a wildlife species but is not crucial for population survival. Degradation or unavailability of substantial value habitat will not lead to significant declines in carrying capacity and/or numbers of the wildlife species in question.

3.9.2.1 Pronghorn

Pronghorn are common in Utah and known to occupy desert, grassland, and sagebrush habitats throughout the state. The primary food source for pronghorn is shrubs (i.e., sagebrush) but they also consume grasses and forbs. Pronghorn breed in the fall with the females typically giving birth to two kids in the spring. Pronghorn are diurnal and are often found in small groups (UDWR-UNHP 2008). Home ranges for pronghorn can vary between 400 and 5,600 acres, according to factors including season, habitat quality, population characteristics, and local livestock occurrence. Typically daily movements do not exceed 6 miles. Some pronghorn make seasonal migrations between summer and winter habitats, but

these migrations are often triggered by availability of succulent plants and not local weather conditions (Fitzgerald et al. 1994).

A portion of the Project Area (from approximately mile marker 30.5 to 56.8) provides crucial year-long habitat for pronghorn. UDWR pronghorn population objectives for the Book Cliffs WMU are 450 individuals, with a current population estimate of 172 (UDWR 2008a). Pronghorn utilize the northern portion of the Project Area in sagebrush-dominated plant communities. BLM-designated crucial fawning habitat for pronghorn does not exist within the Project Area (BLM 2008a).

3.9.2.2 Mule Deer

Mule deer are common throughout Utah in a variety of habitat types ranging from open deserts, montane forests, and urban areas. Mule deer utilize high elevation montane habitats in the summer and migrate to lower elevations in the winter. Mule deer primarily browse on shrubs, woody material, and grasses. Mule deer breed in the fall and typically produce one or two fawns in the spring (UDWR-UNHP 2008). A total of approximately 403 acres of mule deer habitat are included in the Project Area. Of this amount, about 99 percent (or 400 acres) are managed as winter habitat, either as winter substantial (201 acres) or as winter crucial (199 acres). Only about 3 acres of the Project Area would involve crucial summer/fawning habitat (refer to Exhibit 5 in Appendix G).

UDWR mule deer population objectives for the Book Cliffs WMU are 10,000, with a current population estimate of 7,355 (UDWR 2008a). Mule deer are not evenly distributed within the crucial winter range designated by the UDWR. The winter range located between Seep Ridge Road and Atchee Ridge Road, south of the Kings Well Road, supports a large percentage of the wintering deer within the Book Cliffs WMU and Bitter Creek Wildlife Management Subunit. The primary drainages within this deer crucial winter range provide high-quality forage and cover to support the greatest number of deer (Karpowitz 1984). Deer winter ranges that typically exhibit higher use often include pinyon-juniper woodlands intersected by long drainages and open areas containing fourwing saltbush, sagebrush, winterfat), and native grasses. The lower limit of the deer winter range is described as the lower end of the pinyon-juniper belt (Karpowitz 1984).

The Seep Ridge Road bisects a major migratory corridor for mule deer. The migration corridor is located approximately from the Buck Canyon area (located at approximate mile marker 35.5) to the southern project boundary and mule deer migrate across the existing roadway. Mule deer migrate northeast from the Book Cliff divide area in the summer at the south end of the existing Seep Ridge Road to lower elevations in the winter (State of Utah 2008).

3.9.2.3 Elk

Elk are common throughout Utah in most mountainous regions. Seasonal elk habitat in Utah is identified as mountain meadows and forests in the summer and foothills and valley grasslands in the winter. Elk graze primarily on grasses but also consume forbs and woody plants. During the spring the females give birth to one or two calves (UDWR-UNHP 2008).

A total of approximately 397 acres of elk habitat are included in the Project Area. Of this amount, about 90 percent (or 356 acres) are managed as winter habitat, either as winter substantial (243 acres) or as winter crucial (113 acres). Approximately 41 acres of the Project Area provides crucial summer/calving habitat (refer to Exhibit 6 in Appendix G).

UDWR elk population objectives for the Book Cliffs WMU are 7,500, with a current population estimate of 4,776 (UDWR 2008a). The VFO Approved RMP does not identify an elk migration corridor in the Project Area; however, crucial winter range exists towards the southern end of the Project Area.

3.9.2.4 American Bison

An American bison herd exists within the Uintah and Ouray Indian Reservation that is located adjacent to the northern portion of the Project Area (UDWR 2009a). In addition, in 2008 UDWR released 45 bison into the Book Cliffs WMU, with a population objective within the WMU of 450 (UDWR 2009a). The UDWR expects to release additional bison to increase the size of the herd in accordance with their Herd Management Plan. Bison AUMs are not currently being accounted for within the Project Area.

3.9.3 RAPTORS

Some of the more common and visible birds within the Project Area include raptors, or birds of prey. The Project Area provides diverse breeding and foraging habitat for raptors: mixed desert shrub communities, rocky outcrops, and pinyon-juniper woodlands. Table 3.9-1 identifies raptor species with the potential to occur in the Project Area, and a description of typical nesting habitats.

Table 3.9-1. Raptor Species with the Potential to Occur in the Project Area

Common Name	Scientific Name	Nesting Habitat
American Kestrel	*Falco sparverius*	Tree cavities, cliff crevices
Bald Eagle	*Haliaeetus leucocephalus*	Large trees near rivers, lakes, marshes, or other wetland areas
Burrowing Owl	*Athene cuniculara*	Prairie dog colonies
Cooper's Hawk	*Accipiter cooperii*	Woodland areas and riparian zones
Ferruginous Hawk	*Buteo regalis*	Ground, pinyon-juniper woodlands, balanced pinnacles
Golden Eagle	*Aquila chrysaetos*	Cliff ledges and rock outcrops
Great-horned Owl	*Bubo virginianus*	Cliff ledges or nests of other species
Long-eared Owl	*Asio otus*	Coniferous and deciduous forests, and shrublands
Northern Harrier	*Circus cyaneus*	Ground nester within thick vegetation
Prairie Falcon	*Falco mexicanus*	Cliff ledges
Red-tailed Hawk	*Buteo jamaicensis*	Cliff ledges, rock outcrops, aspen, pinyon-juniper woodlands, etc.
Short-eared Owl	*Asio flammeus*	Ground nester
Swainson's Hawk	*Buteo swainsoni*	Solitary trees or bushes
Turkey Vulture	*Cathartes aura*	Rock outcrops, caves, and tree cavities
Western Screech Owl	*Megascops kennicottii*	Almost exclusively in tree cavities

All raptor species and their nests are protected from take or disturbance under the Migratory Bird Treaty Act (MBTA) (16 USC, 703 et seq.), as amended. However, bald eagles, golden eagles, ferruginous hawks, burrowing owls, and short-eared owls are also considered to be special status wildlife species.

Through a review of BLM data and correspondence with USFWS and UDWR, it was concluded that golden eagle and burrowing owl individuals or their potential nesting habitat may occur within the vicinity of the Project Area and these species are discussed in more detail in the following sections. In addition, BLM wildlife habitat surveys in the Book Cliffs area have identified and documented the locations of raptor nests (BLM 2002). Two red-tailed hawk nest locations were documented near mile markers 41.5 and 42.25 that occur within the Project Area and two additional nests were documented near mile markers 36.5 and 43.5 that are less than 0.5 mile from the Project Area boundary. BLM surveys also identified a single golden eagle nest occurring within 0.5 mile of the Project Area near mile marker 40 (BLM 2002). Although bald eagles, ferruginous hawks, and short-eared owls are not likely to nest within the Project Area or immediate vicinity, suitable foraging habitat for these three species does exist. Due to the unlikely occurrence of nesting bald eagles, ferruginous hawks, and short-eared owls within the Project Area, further analysis regarding potential project-related impacts to these species, or their habitat, is not included in this document.

3.9.4 MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA), as amended, was implemented for the protection of migratory birds. Unless permitted by regulations, the MBTA makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition, Executive Order 13186 sets forth the responsibilities of federal agencies to further implement the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds.

Numerous migratory bird species occupy the Project Area. This section addresses migratory birds that may inhabit the Project Area, including those species classified as Priority Species by Utah Partners in Flight (PIF). The purpose of the Utah PIF is to determine which Utah bird species and their habitats are most in need of conservation and to recommend conservation actions in accordance with strategies that are generated through the program (Parrish et al. 2002). PIF species are not subject to special protection by the state of Utah, though some PIF species are also designated as wildlife species of concern or listed under conservation agreements.

A number of bird species listed by the Utah PIF conservation program are known to occur, potentially occur, or suitable habitat for those species is located within the vicinity of the Project Area. Appendix E lists each of the PIF bird species, their habitat association, potential for occurrence within the Project Area and cumulative effect area, and whether the species has been eliminated from detailed analysis in this document. This section identifies all other migratory birds that may inhabit the Project Area, including those species classified as High-Priority birds by Utah Partners in Flight (UPIF 2002). High-Priority species are denoted by an asterisk (*).

3.9.4.1 Sagebrush Community

Migratory bird species commonly associated with mixed desert shrub/sagebrush habitat include: the Greater Sage-grouse* (*Centrocercus urophasianus*), Grasshopper sparrow* (*Ammodramus savannarum*), black-chinned sparrow (*Spizella atrogularis*), black-throated sparrow (*Amphispiza bilineata*), Brewer's sparrow* (*Spizella breweri*), gray flycatcher* (*Empidonax wrightii*), green-tailed towhee* (*Pipilo chlorurus*), horned lark (*Eremophila alpestris*), lark bunting (*Calamospiza melanocorys*), lark sparrow (*Chondestes grammacus*), loggerhead shrike (*Lanius ludovicianus*), gray vireo* (*Vireo vicinior*), mountain bluebird* (*Sialia currucoides*), northern mockingbird (*Mimus polyglottos*), sage sparrow* (*Amphispiza belli*), sage thrasher* (*Oreoscoptes montanus*), Say's phoebe (*Sayornis saya*), vesper sparrow (*Pooecetes gramineus*), and western meadowlark (*Sturnella neglecta*) (Parrish et al. 2002).

3.9.4.2 Pinyon-Juniper Woodlands

Migratory bird species commonly associated with juniper and pinyon-juniper habitats include: the ash-throated flycatcher (*Myiarchus cinerascens*), black-chinned hummingbird* (*Archilochus alexandri*), Broad-tailed hummingbird* (*Selasphorus playcercus*), Lewis's woodpecker* (*Melanerpes lewis*), black-throated gray warbler (*Dendroica nigrescens*), blue-gray gnatcatcher (*Polioptila caerulea*), juniper titmouse* (*Parus inornatus*), common nighthawk (*Chordeiles minor*), gray vireo* (*Vireo vicinior*), Cassin's kingbird* (*Tyrannus vociferan*), Cassin's finch* (*Carpodacus cassinii*), pinyon jay* (*Gymnorhinus cyanocephalus*), common poorwill (*Phalaenoptilus nuttallii*), Clark's nuthatch (*Nucifraga columbiana*) gray flycatcher* (*Empidonax wrightii*), loggerhead shrike (*Lanius ludovicianus*), Scott's oriole (*Icterus parisorum*), Virginia's warbler* (*Vermivora virginiae*), and western bluebird (*Sialia mexicana*) (Parrish et al. 2002).

3.9.5 SPECIAL STATUS WILDLIFE AND FISH SPECIES

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA), the BLM must ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or adversely modify designated critical habitat. The BLM has a commitment to ensure that actions requiring its authorization or approval are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of this policy (BLM 2008c).

An off-site literature review was completed to gather information concerning threatened and endangered (T&E) species, candidate species, and their habitat. The literature review consisted of an internet search to gather species information from applicable sources and publications. Internet web sites including the Utah Conservation Data Center (2008) were consulted. Information was also solicited from the U.S. Fish and Wildlife Service (USFWS) and the Utah Division of Wildlife Resources (UDWR). The information was utilized to identify the species present within or in the vicinity of the Project Area, assess potential impacts to the identified species, and identify and evaluate potential concerns of federal, state, and local agencies. Appendix E provides a list of the threatened, endangered, candidate, and Utah special status animal species, including Partners-In-Flight (PIF) species of concern, that potentially occur within BLM public lands. Appendix E also describes each species' habitat associations, potential for occurrence within the Project Area and cumulative effects area, and whether each species has been eliminated from detailed analysis in this document due to known occurrence within the Project Area.

3.9.5.1 Special Status Mammal Species

White-tailed Prairie Dog

The white-tailed prairie dog (*Cynomys leucurus*) is a State of Utah wildlife species of concern due to declining populations within the state. White-tailed prairie-dogs inhabit mountain valleys, semidesert grasslands, agricultural areas, and open shrublands in western North America (Fitzgerald et al. 1994; Hall 1981). In northeastern Utah, the species occurs in areas around Flaming Gorge, Manila, Diamond Mountain, and the Uinta Basin.

Management decisions in the VFO Approved RMP specify that the BLM, in cooperation with UDWR, will maintain and enhance white-tailed prairie dog and other foraging habitat as they are an obligate species to several other state sensitive species such as ferruginous hawk, mountain plover, and burrowing

owl, in that these species depend on them for food, shelter, and nesting habitat or habitat manipulation (BLM 2008a).

White-tailed prairie dogs are distributed in relatively large, sparsely populated complexes and live in loosely knit family groups or "clans" (Tileston and Lechleitner 1966). Clan boundaries are ill-defined with most activity concentrated around feeding sites. The white-tailed prairie dog breeds in the spring and hibernates underground though the winter. White-tailed prairie-dog population numbers are threatened by loss of habitat, poisoning, and plague (UDWR-UNHP 2008).

In coordination with UDWR and BLM, the Project Area would involve scattered white-tailed prairie dog colonies and individuals, but that any colonies in the area are relatively small as evidenced by the small size of observed areas of mounded soil. UDWR data also indicated that soils in the Project Area are not conducive for extensive prairie dog colonies (UDWR 2008b).

Bats

Four bat species identified as state-sensitive wildlife species of concern (WSC) may occur within the Project Area. These species include big free-tailed bat (*Nyctinimops macrotis*), fringed myotis (*Myotis thysanodes*), spotted bat (*Euderma maculatum*), and Townsend's big-eared bat (*Corynorhinus townsendii*). Foraging habitat for each of these species occurs within the Project Area (refer to Appendix E).

3.9.5.2 Special Status Bird Species

Greater Sage Grouse

The greater sage-grouse (*Centrocercus urophasianus*), classified as a Utah sensitive species is one of two sage-grouse species known to occur within the State of Utah and is known to inhabit sagebrush plains, foothills, and mountain valleys in the Project Area vicinity. Sage-grouse population numbers in Utah have decreased 50 percent from the historical abundance of the species due to intensive agriculture and livestock use that has significantly reduced historical sage-grouse habitat (UDWR-UNHP 2008). In addition, the oil and gas development industry has been identified as a significant threat to sage-grouse populations due to habitat disturbance and vehicular traffic.

The availability of sagebrush habitat with an understory of grasses and forbs is essential for good sage-grouse habitat (UDWR-UNHP 2008). Nesting and brooding sites are typically located in or near the protective cover of sagebrush (UDWR 2002), which is also an important winter food source. Most hens typically nest within 2 miles of strutting grounds or breeding leks (Braun et al. 1977), and 74 to 80 percent of sage-grouse hens are found within 4 miles of a lek (Colorado Greater Sage Grouse Conservation Plan Steering Committee 2008). Based on this information and analysis of BLM GIS data, approximately 160 acres of sage-grouse nesting habitat would be involved in the Project Area (refer to Exhibit 7 in Appendix G) (BLM 2008a). Early brood-rearing habitat generally occurs relatively close to nest sites, but movements of individual broods may be highly variable. Sage-grouse broods occupy a variety of habitats during the summer including sagebrush, relatively small burned areas within sagebrush, wet meadows, farmland, and other irrigated areas adjacent to sagebrush habitats (Connelly et al. 2004). Brooding habitat exists throughout the entire Project Area within sagebrush communities (i.e., Wyoming big sagebrush and black sagebrush). There are approximately 293 acres of sagebrush communities within the Project Area.

Breeding activities occur on active leks in March and April, and nesting typically occurs in April (UDWR-UNHP 2008). Typically active leks are not used for sage-grouse breeding later than early June

(UDWR 2002). Active leks are defined as any lek that has been attended by male sage grouse during the strutting season. Presence can be documented by observation of birds using the site or by signs of strutting activities (BLM 2005). Inactive leks are defined as leks where it is known that there was no strutting activity through the course of a strutting season. A single visit, or even several visits, without strutting grouse being seen is not adequate documentation to designate a lek as inactive. This designation requires either an absence of birds on the lek during multiple ground visits under ideal conditions throughout the strutting season or a ground check of the exact lek site late in the strutting season that fails to find any sign (droppings/feathers) of strutting activity (BLM 2005).

Consultation with UDWR concluded that there are approximately three active leks located in the East Bench area several miles east of the existing Seep Ridge Road (UDWR 2008c). The hens and broods move across the Seep Ridge Road into the Willow Creek drainage approximately 1 to 2 miles north of the Willow Creek Overlook (at approximate mile markers 46 to 47). These populations maintain low numbers and have also been identified north of Kings Well Road. Analysis of BLM data from the VFO Approved RMP identified the Popewell Ridge Lek as occurring within the Project Area (approximate mile marker 48) and the Monument Ridge lek (near approximate mile marker 33) as occurring within 0.5 mile of the Project Area. The Popewell Ridge lek, occurring at approximate mile marker 48 (located on BLM land), and the Monument Ridge lek (located on BLM public lands), located within 0.5 mile of the Project Area, are determined by UDWR to be no longer active (UDWR 2008c). It should be noted that the above-mentioned lek data were erroneously included in the VFO Approved RMP and a subsequent No Surface Occupancy (NSO) was established for the leks. However, the Popewell Ridge and Monument Ridge leks have since been determined by BLM to be inactive. As such the No Surface Occupancy (NSO) restriction (outlined in the VFO Approved RMP) for surface-disturbing activities within 0.25 mile of active leks would not apply in this case.

Burrowing Owl

Burrowing owls are known to occur throughout the State of Utah (UDWR 2008d). The burrowing owl is a migratory species that winters in the southwestern United States, northern Mexico, Florida, and the West Indies, typically residing in Utah in the spring and summer. The preferred habitat for burrowing owls is arid grassland and shrubland regions, where the owl frequently nests in tunnels abandoned by burrowing mammals such as the white tailed prairie dog (UDWR 2008e). Consultation with UDWR and review of BLM data concluded that burrowing owl habitat is present in the northern portion of the Project Area associated with scattered white-tailed prairie dog colonies. Although burrowing owl surveys have not been completed for the Project Area, suitable habitat does exist for the species (BLM 2008a).

3.9.5.3 Special Status Fish Species

No perennial drainages or aquatic features occur along the Project Area and therefore, habitat for fish and other aquatic species does not exist within the Project Area. However, water from the Project Area could be carried downstream via the existing ephemeral drainage networks and ultimately empty into the White River and subsequently into the Green River.

Endangered Colorado River Fish

Four federally-listed as endangered fish species are historically associated with the Upper Colorado River Basin: The humpback chub (*Gila cypha*), bonytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), and razorback sucker (*Xyrauchen texanus*). The USFWS has designated critical habitat for the Colorado pikeminnow and razorback sucker in portions of the White River and its respective 100-year floodplain (59 CFR 13374). The Project Area is located approximately 12 miles south from critical habitat for the Colorado pikeminnow in the White River. The Project Area is located approximately 7

miles east of the Green River and critical habitats have been designated for the razorback sucker, humpback chub, and bonytail on this river (59 CFR 13374; USFWS 2008).

Utah State Sensitive Fish

Three fish species endemic to the Colorado River Basin have been affected by flow alternations, habitat loss or alternation, and the introduction of non-native fish: roundtail chub (*Gila robusta*), bluehead sucker (*Catostomus discobolus*), and flannelmouth sucker (*Catostomus latipinnis*). These species are classified by the State of Utah as conservation agreement species due to their declining populations within the state. Habitat for these species occurs downstream of the Project Area in the White and Green Rivers.

3.10 LIVESTOCK GRAZING

Three cattle and one sheep grazing allotment bisect the Project Area (refer to Exhibit 8 in Appendix G). Table 3.10-1 provides basic grazing information for these allotments. Within the Olsen AMP Allotment the permitee is permitted to graze approximately 6,200 sheep. It is estimated that on average 643 cattle graze the Sunday School Canyon Allotment; 1,191 cattle graze the Sand Wash Allotment; and 1,498 cattle graze the Sweet Water Allotment. The estimated average carrying capacity for these allotments are: 11.0 acres/Animal Unit Month (AUM) for the Olsen AMP Allotment; 9.1 acres/AUM for the Sand Wash Allotment; 12.6 acres/AUM for the Sunday School Canyon Allotment; and, 12.5 acres/AUM for the Sweet Water Allotment. Based on this information, a total of approximately 52 AUM's would be involved in the Project Area.

Table 3.10-1. Grazing Allotments in the Project Area

Name	Type	Grazing Period	Total Allotment Acreage	Total Allotment AUMs[1]	Usable[2] Acreage In Project Area	Usable[2] AUMs In Project Area
Olsen AMP	Sheep[3]	11/1 – 6/15	134,306	9,268	34	3
Sand Wash	Cattle	11/30 – 4/30	74,424	8,176	215	24.5
Sunday School Canyon	Cattle	11/1 – 4/30	51,597	4,106	163	12.9
Sweet Water	Cattle	5/1 – 10/31	104,572	8,391	143	11.2
TOTAL			**364,899**	**29,941**	**555**	**51.6**

[1] An animal unit month (AUM) is defined as "the amount of dry forage required by one animal unit for one month based on a forage allowance of 26 pounds per day" (BLM 2008a).
[2] Usable acreage on slopes less than or equal to 40 percent slope, and on BLM lands only.
[3] This is a sheep allotment, 40% slopes are not a barrier to grazing.

Currently the existing Seep Ridge Road ROW is not entirely fenced, allowing livestock to move freely across the road in search of forage and water. There is an existing fence along the west side of the Seep Ridge Road starting in section 30, T12S, R22E running south for approximately 0.84 miles, terminating at the cattleguard at the Buck Canyon turnoff. Another fence bisects the road at a cattleguard crossing where the boundary of the Sunday School Canyon and Sweetwater Allotments meet (Sec. 23, T14S, R22E). Other existing rangeland improvement structures are shown in Table 3.10-2 (BLM 2008a). Efficient use of these improvements and effective control of free-roaming livestock in the area of the water sites and the Seep Ridge Road are significant concerns for the livestock operators on these allotments.

Table 3.10-2. Existing Rangeland Improvement Structures

Improvement Structure	Allotment	Location
Cattleguards on the Seep Ridge Road		
Mile Marker 56.8	Sand Wash	T10S, R20E section 11
Mile Marker 36	Sand Wash	T12S, R22E section 31
Mile Marker 24	Sunday School Canyon	T14S, R22E section 23
Mile Marker 14	Sweet Water	T15S, R23E section 27
Corrals		
Browns Corral	Olsen AMP	NW/4NW/4 sec. 30, T12S, R22E
McCoy Corral	Sunday School Canyon	SW/4NE/4 sec. 35, T13S, R22E
Seep Ridge Count Corral	Sunday School Canyon	NW/4NE/4 sec. 25, T14S, R22E
Monument Ridge Pasture Corral	Sweet Water	NW/4NW/4 sec. 26, T15S, R23E
Watering Ponds/Reservoirs		
	Sunday School Canyon	T13S, R22E section 26
	Sunday School Canyon	T13S, R22E section 35*
2 ponds at this site	Sunday School Canyon	NW/4NE/4 sec. 25 T14S, R22E
	Sweet Water	T15S, R23E section 35
	Sand Wash	SW/4SW/4 sec. 12, T10S, R20E
	Sand Wash	SW/4SE/4 sec. 7, T11S, R21E
	Sweet Water	NE/4 sec. 23, T14S, R22E
	Sweet Water	SW/4NE/4 sec. 25, T14S, R22E
	Sweet Water	SE/4NW/4 sec. 32, T14S, R23E*
	Sweet Water	SE/4NE/4 sec. 8, T15S, R23E
Water pipeline from well crossing the existing road	Sunday School Canyon	NW/4NW/4 sec 2, T14S, R22E

* Located on state land

3.11 RECREATION (INCLUDING TRAVEL MANAGEMENT)

The BLM's recreation management objective for the Book Cliffs area is to provide unlimited and unconfined recreation (BLM 2008a). The existing landscape in the Book Cliffs area could appropriately be characterized as remote, where currently human intrusions are substantially unnoticed. Accordingly, recreational use of the area consists primarily of dispersed hunting and limited off-highway vehicle (OHV) use where permitted. In addition to dispersed recreational use, the Second Nature Wilderness Program uses the area for some of their annual activities during the months of November to May.

Big game hunting extends from mid-August through mid-November (UDWR 2007a). The Book Cliffs area is an extremely popular hunting area and applications for the limited entry hunting permits for both elk and deer are highly sought. UDWR reports that a total of 8,413 applications were received for the 490 deer permits offered for the 2008 limited entry deer draw (UDWR 2009b). Black bear may also be hunted in the spring (mid-April through May (UDWR 2007b). Cougars may be pursued in the spring, with the hunt season beginning in late winter and extending into early summer (mid-February to June) (UDWR 2008f). Spring hunting and pursuit seasons for black bear and cougar may extend from early April through May. In the spring, antler collection is a popular activity by recreationists on foot, horseback, and ATV. In 2006, UDWR estimated a total of approximately 975 hunters were afield in the Book Cliffs, with an estimated average stay of approximately 8 days (UDWR 2007a,b and 2008f). The largest number of hunters afield generally occurs on the opening weekend of the hunt.

Two camping areas occur along the Seep Ridge Road within the Project Area: Pine Springs and Hideout (refer to Exhibit 9 in Appendix G). Six other areas are located outside of the Project Area in Grand

County. The closest camping area to the southern terminus of the Project Area is Lower Willow, about 0.5 miles east of the project's southern terminus. Additionally, there are an unknown number of dispersed camp sites that may occur within 0.5 mile of the Seep Ridge Road. It is a common practice for hunters and their families to return to their favorite camp sites year after year (BLM 1984). The BLM allows motorized camping vehicles to travel off designated routes on a single path up to 300 feet to access existing disturbed dispersed campsites (BLM 2008a).

Hunters and visitors to the Book Cliffs area have shown little interest for improved facilities such as sanitation or water systems. Other than placement of fire rings, the existing camping sites have seen little or no physical improvements (BLM 1984).

The Seep Ridge Road has been designated by the BLM as a Back Country Byway (BLM 2008a). A large network of unpaved roads and "two-track" routes also traverses the area, providing ample access for recreation users. The entire Project Area is designated as "limited" to OHV use to protect resource values including important wildlife habitat. Areas designated as "limited" restrict OHV use to designated trails and travel routes (BLM 2008a). BLM has installed a recreation/hunting information kiosk and a self-contained restroom on an area partially within the existing Seep Ridge Road ROW at the head of Buck Canyon (refer to Exhibit 9 in Appendix G). This site receives high visitation during hunting seasons and serves as a stopping point for heavy energy industry vehicles travelling on the Buck Canyon Road.

Overall, the Project Area receives relatively modest recreational use relative to other prominent recreation areas in the region such as Dinosaur National Monument, and the Flaming Gorge National Recreation Area.

3.12 LANDS/ACCESS

From the city of Vernal, the Seep Ridge Road is accessed by traveling west approximately 7 miles on U.S. Highway 40, then turning south onto Highway 88 toward the town of Ouray. At Ouray, Highway 88 becomes the Seep Ridge Road (Uintah County Road 2810). The Seep Ridge Road continues south, crossing approximately 9 miles of the historic Uintah and Ouray Indian Reservation, and then continuing in a southerly direction approximately 50 miles to its terminus with the Book Cliff Divide Road in Grand County, Utah.

Other major access tying in to the Seep Ridge Road include: Glen Bench Road (UCR 3260); West Sand Wash Road (UCR 4110); Buck Canyon Road (UCR 5460); Kings Wells Road (UCR 4190); Indian Ridge Road (UCF 4510); Pine Spring Canyon Road (UCF 5590); and Monument Ridge Road (UCR 4610). These roads serve primarily as major arterial routes for energy development activities in the Book Cliffs area. Of these roads, only the Glen Bench Road, north of the White River is currently paved.

County roads, including the Seep Ridge Road, are monitored by the Uintah County Roads Department (UCRD). The most recent data the estimates the average daily traffic (ADT) count of 569 or about 24 vehicles an hour, for the Seep Ridge Road (south bound at the cattleguard) (UCRD 2005). The type of vehicles using the Seep Ridge road include: Passenger vehicles, SUVs, pickup and light trucks, livestock hauling trucks, energy industry vehicles including heavy trucks and trailers. The majority of the traffic is during daylight hours, seven days a week. Vehicle numbers increase during hunting seasons.

Currently 41 ROWs are authorized on BLM-administered public lands that are parallel to, adjacent to, cross or are within the Project Area. These easements are principally surface and/or buried energy pipelines associated with ongoing energy development in the Book Cliffs and Willow-Hill Creeks areas. Table 3.13-1 provides a list of existing federal ROWs and their current holders.

Table 3.12-1. Existing Federal ROWs Affected by the Proposed Action

Federal ROW	Holder
UTU-47454	Slate River Resources, LLC
UTU-81566	" " " "
UTU-82254	" " " "
UTU-82765	" " " "
UTU-76920	" " " "
UTU-81567	" " " "
UTU-82255	" " " "
UTU-82270	" " " "
UTU-72155	UBET Cellular
UTU-46776	ETC Canyon Pipeline, LLC
UTU-47466	" " " "
UTU-46862	" " " "
UTU-0092176	" " " "
UTU-53906	" " " "
UTU-76116	" " " "
UTU-47454	" " " "
UTU 50801	" " " "
UTU 74565	" " " "
UTU 85853	" " " "
UTU-74592	Comet Resources LLC
UTU-53945	NW Pipeline Corporation
UTU-49205	XTO Energy, Inc.
UTU-76929	" " "
UTU-85542	" " "
UTU-57523	" " "
UTU-77736	" " "
UTU-49210	Newfield Production Company
UTU-50501	" " "
UTU-47454	Enduring Resources LLC
UTU-81566	" " "
UTU-82254	" " "
UTU-82765	" " "
UTU-76920	" " "
UTU-81567	" " "
UTU-82255	" " "
UTU-82270	" " "
UTU-77651	Rosewood Resources
UTU-77715	Pioneer Natural Resources USA, Inc.
UTU-79095	" " " " "
UTU-81233	" " " " "
UTU-77717	" " " " "
UTU-81232	" " " " "
UTU-85503	" " " " "

Source: BLM datafiles.

4.0 - ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter provides an analysis of the environmental consequences from implementation of the Proposed Action (Alternative A) and Alternative B (the No Action Alternative). Best Management Practices that would avoid or reduce impacts under Alternative A have been included in Chapter 2 of this EA, and the analyses in this chapter assume that those measures would be implemented.

Direct impacts to resources, those caused by the action and occur at the same time and/or place (40 CFR 1508.8), in the following analyses are described in terms of initial impacts from construction and development activities. In areas where interim reclamation is implemented, ground cover by herbaceous and woody species could re-establish within 7 to 8 years following seeding of plant species adapted to the region and diligent weed control efforts. However, it is important to note that recent BLM monitoring has documented that reclamation efforts on BLM-administered public lands in the Basin have largely been unsuccessful at reestablishing soil stability, vegetation, and subsequent forage for wildlife and livestock due to poor soils and drought. BLM field inspections show that initial impacts may be more accurately portrayed as long-term impacts. All surface disturbance proposed under the alternatives, therefore, could remain as long-term (or even permanent) impacts on the landscape if reclamation efforts are not successful.

4.2 AIR QUALITY

4.2.1 ALTERNATIVE A – PROPOSED ACTION

Project-related emissions have the potential to affect air quality on both a local and a regional scale. The VFO FEIS and Proposed RMP (BLM 2008c) included a detailed air quality analysis covering the Uinta Basin. The summary conclusions for impacts resulting from land and realty management decisions, such as the Proposed Action, "are projected to have no significant effect on air quality except as they impact other management decisions." (p. 4-33).

The results of screening visibility analyses conducted for the RMP exercise indicated that potential BLM sources, including a project such as upgrading the Seep Ridge Road, would not result in a perceptible impact on visibility at any of the PSD Class I and Class II areas within and/or adjacent to the Vernal Planning Area. Due to the relatively small scale of the Proposed Action, a regional-based model run specific to the Proposed Action would not have the resolution needed to reveal a discernible difference between the current air quality conditions and air quality conditions during and after completion of the proposed improvements. Thus, the fugitive dust created during the 6-year construction period associated with the Proposed Action would result in unquantified short-term impacts that would exceed air quality standards for visibility. Paving the Seep Ridge Road would result in a positive, long-term improvement to air quality as the current levels of fugitive dust created from vehicles using the road would be eliminated.

In summary, while an emissions increase of both criteria and hazardous air pollutants is expected as a result of the construction activities of the Proposed Action, these emissions are not likely to result in a violation of an ambient air quality standard or hazardous pollutant threshold.

4.2.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, construction to improve and pave the Seep Ridge Road would not occur. Dust from primarily energy-development related vehicle traffic on the native material surface of the Seep Ridge Road would continue. Short- and long-term impacts to environmental elements from fugitive dust would continue, with long-term impacts likely to increase in severity due to the expected increase in energy-development activities in areas accessed by the Seep Ridge Road. The continued dust levels produced by vehicle traffic along the unpaved Seep Ridge Road would not result in an exceedance of current air quality standards.

4.2.3 MITIGATION MEASURES

No additional mitigation measures proposed.

4.3 CULTURAL RESOURCES

Ground-disturbing activities, such as road construction, and secondary surface activities, such as vehicular traffic, and relocating the Monument Ridge Pasture Corral and the Buck Canyon Kiosk, can directly and irreversibly damage or destroy sensitive cultural resources. Many of the known archaeological sites, both prehistoric and historic, in the Uinta Basin are shallow and therefore vulnerable to the direct impacts of vegetation clearing, ROW blading, and excavation of soils.

Indirect impacts could include damage or destruction of cultural resources as a result of increased visitation of otherwise remote areas and as a result of improved public access to these areas provided by Project Area access roads.

4.3.1 ALTERNATIVE A – PROPOSED ACTION

The Proposed Action would include potential new disturbance to approximately 813 acres in the Project Area. One site that has been recommended but not determined eligible for the NRHP, and two sites that have been recommended but not determined not eligible for the NRHP, will be directly impacted by construction (Table 4.3-1) The BLM, in consultation with the Utah State Historic Preservation Office (SHPO), SITLA, and other consulting parties, has determined that the impacts on these sites from the Proposed Action would be adverse. As such, mitigation to resolve those adverse effects would be necessary.

Under the Proposed Action impacts to archaeological resources all into four separate categories. Direct impacts to Eligible sites include sites determined eligible to the NRHP that would be partially or completely destroyed by the construction efforts. Indirect impacts to eligible sites include sites determined eligible to the NRHP that are outside the actual construction footprint, but within the 300-foot cultural resource APE and may be impacted by equipment and construction traffic across the site. Direct and indirect impacts to sites recommended not eligible, but not yet determined would include both partial or complete destruction, or inadvertent impacts from equipment and construction traffic across the site. Since an agency determination has not been made regarding these sites, the direct and indirect impacts to the sites should be considered as significant as the impacts to previously determined eligible sites. Sites determined not eligible are not considered for adverse impacts, and therefore do not need to be evaluated for impacts by the Proposed Action. The Monument Ridge Pasture Corral is located outside of the APE for the road footprint; however, because of its proximity to the edge of the roadway, it is proposed to be removed and relocated to another area.

There is a chance that additional subsurface cultural resource sites could be unearthed during ground-disturbing activities associated with the Proposed Action. The County's commitment to immediately stop work and consult with the SMA at a site where cultural materials are exposed would minimize, but not eliminate impacts to cultural resources.

The Proposed Action would result in increased human presence in the Project Area. Upgrades to the Seep Ridge Road would provide improved access to areas that may contain cultural resources. Opportunities for looting and vandalism of cultural resources could increase as an indirect effect of the Proposed Action; however, the potential risk cannot be quantified at this time.

Table 4.3-1. Cultural Resources Recorded or Updated within the Are of Proposed Effect (APE)

Site No.	Description	National Register Eligibility	Nature of Impact and Mitigation Measures
42UN000646	Prehistoric lithic scatter composed of debitage (flakes) with tools in a 29 meter x 31 meter area.	*Recommended Not Eligible	**Direct Impact:** Site Specific MOA, unless determination is made
42UN001782	Prehistoric campsite composed of hearth features and debitage in a 90 meter x 20 meter area.	Determined Eligible	**Monitor:** Site is outside of direct impact construction area
42UN002487	Historic Buck Canyon Road with no associated historic artifacts.	Determined Eligible	**Monitor:** Intact major portions are outside construction area
42UN005506	Historic campsite composed of tin cans, glass, several diagnostic artifacts, and modern debris in a 56 meter x 30 meter area.	Determined Not Eligible	No monitoring necessary, since site is not eligible
42UN007040	Multi-component site consisting of an historic debris scatter and small prehistoric flake scatter. Several diagnostic historic artifacts and historic features with one historic and prehistoric artifact concentration are present. Total site area is approximately 50 by 50 meters.	Determined Eligible	**Monitor:** Site is outside of direct impact construction area
42UN007041	Historic debris scatter with several diagnostic artifacts in an approximate 25 meter squared area.	Determined Not Eligible	No monitoring necessary since site is not eligible
42UN007633	Prehistoric flake and ceramic sherd scatter with chipped stone tools in an approximate 57 meters by 42 meter area.	*Recommended Eligible	**Direct Impact:** Site-specific MOA, unless determination is made

Site No.	Description	National Register Eligibility	Nature of Impact and Mitigation Measures
42UN007634	Multi-component site consisting of an historic debris scatter and prehistoric flake scatter. Several diagnostic historic artifacts and one prehistoric flake concentration are present. Total site area is approximately 79 by 67 meters.	*Recommended Not Eligible	**Direct Impact:** Site-specific MOA, unless determination is made
42UN007635	Historic Monument Ridge Road Corral with no associated artifacts. Corral measures 154 feet x 109 feet	*Recommended Not Eligible	**Direct Impact:** Existing structure would be removed. Develop site specific MOA, unless determination is made.

*Sites will be treated as Eligible during mitigation efforts because their eligibility recommendation would not be reviewed by the Utah State Historic Preservation Office prior to implementation of the Proposed Action.

4.3.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, the proposed construction activities and paving actions would not occur. Although regular maintenance activities would continue on the Seep Ridge Road, such work would be confined to the existing ROW, thus greatly reducing the possibility of disturbing cultural material buried adjacent to the existing ROW. The opportunity for vandalism of cultural materials would remain unchanged from current conditions. Continued road widening due to ongoing maintenance, however, could affect known cultural resources.

4.3.3 MITIGATION MEASURES

Under the Proposed Action mitigation measures would include for eligible sites that are located outside of the direct impact of construction, but within the 300-foot cultural resources APE, monitoring would be required by the BLM to ensure the sites remain intact and are protected during construction. Sites that have been determined not eligible would require no monitoring or change in the construction corridor. Sites that are recommended not eligible, but have not yet been determined by the agency will require the same treatment as already determined for eligible sites. The Monument Ridge Pasture Corral was thoroughly documented because it would be removed as part of the Proposed Action.

One site that has been recommended but not determined eligible for the NRHP, and two sites that have been recommended but not determined not eligible for the NRHP, cannot be avoided by the Proposed Action (Table 3.3-1).These sites have not yet been reviewed for eligibility by the BLM and will therefore be treated as if they have been determined eligible. Many options are available for mitigating the adverse impacts to these three sites, including detailed documentation of surface artifacts, test excavations or full-scale excavations, monitoring of construction activities through the site and addressing any artifacts or features that may be uncovered. For each of these sites, the BLM, SITLA, SHPO, and other consulting parties, such as the County or local tribal governments, as appropriate, will enter into a site-specific Memorandum of Agreement (MOA) that outlines the actions to be carried out to mitigate the adverse effects to the site. A copy of each MOA will be released at the time of the release of the Finding of No Significant Impact (FONSI).

In order to address the potential impacts to subsurface cultural resources that could be discovered during ground disturbing activities related to construction, the BLM, SITLA, SHPO and other consulting parties will coordinate on a site-specific basis..

4.4 PALEONTOLOGY

4.4.1 ALTERNATIVE A – PROPOSED ACTION

Potential impacts to paleontological resources include the loss of scientifically important fossils due to excavation activities. The loss of fossils could result from crushing by construction equipment as well as increased theft and vandalism of exposed fossils. Alternatively, construction of the project facilities may uncover scientifically important fossils, which could be considered a positive (beneficial) impact.

The Project Area has a fairly high potential for producing significant fossil material. The County has committed to a BMP (Section 2.1.5.2) that if fossil resources are unearthed during ground-disturbing activity, work would be suspended until the SMA determines what mitigation is needed.

As with cultural resources, an improved roadway increases the opportunity for possible vandalism of significant fossil material.

4.4.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, potential impacts to paleontological resources would be lower compared to the Proposed Action since less surface disturbance would occur. Conversely, the potential for discovering new localities would also be decreased.

4.4.3 MITIGATION MEASURES

No additional mitigation measures are recommended.

4.5 SOILS

4.5.1 ALTERNATIVE A – PROPOSED ACTION

The primary effect of surface disturbance is increased wind and water erosion from removal of established vegetation and soil compaction. A secondary effect is loss of site productivity from mixing soil horizons following disturbance.

The Proposed Action would involve a total of about 813 acres, of which about 658 acres (within and outside of the ROW) would be disturbed during the 6 years of construction, about 110 acres/year. The remaining 151 acres within the ROW would involve the running, paved surface of the proposed road. The current average baseline (or naturally occurring) erosion rate for the Project Area is approximately 1.45 tons/acre/year (BLM 1984). Two studies conducted on sediment yield from disturbed surfaces provide insight into the amount of increased erosion that could be expected from the Project Area. Lusby and Toy (1976) reported that yields from reclaimed surface mines were initially 300 to 600 percent higher than from undisturbed surfaces. Frickel et al. (1975) found that yields increased to about 2.9 tons/acre/year in the Piceance Basin of Colorado after construction of oil shale project facilities. Using these studies as examples, it is assumed that average erosion rates for disturbed soils in the Project Area would increase to about 4.35 tons/acre/year. Based on these estimates the Proposed Action would produce an additional 480 tons of sediment annually during the years of construction and 2 years

following final reclamation (110 acres disturbed/year x 4.35 tons/acre/yr). After reclamation the amount of sediment would decrease to the baseline level of about 960 tons annually (662 acres x 1.45 tons/ac/year).

The analysis described above represents a conservative estimate of the amount of erosion expected to be produced from naturally occurring conditions as well as from disturbed areas within the Project Area. The actual current erosion rate is likely less than estimates used above due to the specific soils, aspects, topography, and vegetation cover involved with the Project Area.

The success of reclamation and reseeding action would be affected by the degree of mixing of the topsoil with subsoil horizons. Subsoil horizons do not have the biomaterial and biochemical structure to support vegetation germination and production. Thus, the long-term productivity of the reclaimed sites using mixed soil materials would be reduced. Careful removal of topsoil, segregating it from other cut material and replacing it as the top layer during reclamation would maximize the proper soil medium for successful reseeding.

4.5.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, regular maintenance operations of the native material road would continue within the existing 66-foot ROW. The existing Seep Ridge Road ROW involves a total of about 363 acres, of which about 143 acres are disturbed areas (including the unpaved road surface) and about 220 acres are in an undisturbed condition. Assuming the 145 disturbed acres produce an estimated 4.35 tons of sediment/ac/yr, approximately 319 tons of sediment are produced annually; and, assuming the 220 acres of undisturbed ROW generate a baseline sediment level of 662 tons/year (220 acres x 1.45 tons/ac/yr), a total of approximately 941 tons of sediment are produced annually from the existing Seep Ridge Road.

4.5.3 MITIGATION MEASURES

To enhance successful reclamation associated with the Proposed Action, topsoil from newly disturbed areas should be removed and stored separately from subsoil horizons until needed for reclamation. During reclamation actions, the topsoil should be respread over the reclaimed subsoil material. No mitigation measures are proposed for the No Action Alternative.

4.6 WATER QUALITY (SURFACE/GROUND)

4.6.1 ALTERNATIVE A – PROPOSED ACTION

The potential impacts to surface water include increased sedimentation and turbidity of surface waters via increased runoff during construction activities and depletion of water flow in the Green and White Rivers due to project-related water consumption.

The potential for impacts would be greatest shortly after the start of construction activities and would decrease in time due to natural stabilization, reclamation, and revegetation efforts. The magnitude of these potential impacts to surface water resources depends on several factors, including the proximity of the disturbance to the water influence zone (WIZ) of surface water drainages or ponds, slope, aspect and gradient, soil type, the duration and timing of the construction activity, and the success or failure of reclamation and mitigation measures. The WIZ is defined as the buffer zone that includes the floodplain, riparian vegetation, inner gorge, unstable areas, or highly erodible soils located adjacent to a stream or other water body.

Sedimentation and Turbidity

Increased erosion and subsequent increased sedimentation of ephemeral drainages within the Project Area is possible, especially during the construction of project facilities. Using the sediment production figures from Section 4.5.1 above, approximately 480 tons of sediment/year could be generated until disturbed areas are successfully reclaimed (6 years of construction, plus 2 years for reclamation), the Proposed Action would produce a total of about 3,840 tons of additional sediment. Following paving of the road and successful reclamation, the annual production would be reduced to 960 tons/year. The increased erosion could also potentially lead to an increase in sedimentation in major ephemeral drainages including Cottonwood Wash, Sand Wash, Seep Canyon, PR Canyon, etc., increasing turbidity of perennial streams including Willow Creek and Bitter Creek and ultimately both the White and Green Rivers.

This erosion estimate is subject to considerable uncertainty. Over time, short-duration precipitation events and snowmelt could cause soil lost from the proposed facilities in the Project Area to reach the drainages of adjacent ephemeral watersheds. This sediment could then eventually be transported down the ephemeral drainages larger ephemeral and perennial drainages and on to the White and Green Rivers. In sufficient amounts, the additional sediment from construction activities could clog stream channels, cause accelerated siltation of livestock ponds, degrade aquatic habitat downstream by covering stream substrates with fine sediment, and increase the turbidity within the streams during the short-term.

With the proper application and maintenance of planned erosion control measures, the actual amount of sediment that could potentially be transported to the White and Green Rivers would be much less than the estimates outlined above. Annual sediment loading in the White River at Ouray, Utah is about 1,680,000 tons and in the Green River at Ouray is about 6,789,000 tons (Lentsch, et al 2000). The highest sediment loading occurs during the months of May and June from snowmelt runoff. Assuming 100% of the estimated maximum additional sediment produced in the Project Area reaches the White and Green Rivers, the Proposed Action could increase the annual sediment loading of the White and Green Rivers over the 8 years of construction and reclamation by approximately 0.029 and 0.007 percent, respectively.

Stream Flow Regimes

As previously discussed, approximately 424 acre-feet of water would be used over the 6-year construction period to control fugitive dust construction activities. Water needed would be obtained from sources that are actively permitted with the Utah Division of Water Resources. Water would be trucked from the permitted sources to drilling locations. The anticipated water use is not expected to alter stream flow regimes. The engineering and design as proposed in the construction elements (Section 2.1.1) would adequately mitigate the affects to the floodplains.

4.6.2 ALTERNATIVE B – NO ACTION

Sedimentation and Turbidity

Under the No Action Alternative, the existing roadway would not be paved, but would remain in its existing native material roadbase. Regular maintenance activities would be completed as needed. Some amount of the estimated 941 tons of sediment produced annually could enter the ephemeral drainages and could increase sedimentation in the major ephemeral and increased turbidity of perennial streams and ultimately the White and Green Rivers downstream from the Seep Ridge Road. Assuming 100% of the estimated maximum sediment produced in the existing ROW reaches the White and Green Rivers, the No Action Alternative could annually increase the sediment loading of the White and Green Rivers by approximately 0.0005 and 0.00001 percent, respectively.

Stream Flow Regimes

Approximately 40 acre-feet of water could be needed annually for fugitive dust control associated with annual maintenance activities of the existing roadway. As with the Proposed Action water needed would be obtained from sources that are actively permitted with the Utah Division of Water Resources. Water would be trucked from the permitted sources to drilling locations. The anticipated water use is not expected to alter stream flow regimes.

4.6.3 MITIGATION MEASURES

No mitigation measures are proposed.

4.7 FLOODPLAINS

4.7.1 ALTERNATIVE A – PROPOSED ACTION

Road construction within floodplains potentially increases the risk of erosion and sediment production. Increased sediment could impact water quality and wildlife resources.

Sixteen (16) ephemeral drainage crossings of Seep Ridge Road were identified during the on-site investigation. Each of the existing drainage crossings has existing culverts in place to convey water underneath Seep Ridge Road. It is anticipated that proposed project construction could require lengthening and/or increasing the size of these existing culverts to withstand 100-year storm events. It is expected that impacts to existing ephemeral drainages within the Project Area would be limited to increasing the footprint of culverts and associated road fill. Adherence to established road design standards and implementation of BMPs in the use and placement of culverts, including: appropriate size culvert for the drainage, proper angle of culvert to reduce water's energy within the drainage, and rock armament on the downstream side, would minimize the direct impacts to the floodplains associated with the West and East Forks of Cottonwood Wash and the ephemeral drainages in the Project Area. These actions and successful reclamation would also reduce the amount of erosion and sediment carried by these drainages. The engineering and design as proposed in the construction elements of the Proposed Action (Section 2.1.1) would adequately mitigate the affects to the floodplains.

4.7.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, surface disturbance and extensive construction activities as outlined in the Proposed Action would not occur. Regular maintenance activities of the existing road would continue and proper drainage from the roadway would be maintained in accordance with the existing terms and conditions of the county's ROW. As such impacts to floodplains associated with the West and East Forks of Cottonwood Wash and the ephemeral drainages that are crossed by the existing roadway would remain at current levels.

4.7.3 MITIGATION MEASURES

No additional mitigation measures are recommended.

4.8 VEGETATION, INCLUDING INVASIVE PLANTS AND NOXIOUS WEEDS, SPECIAL STATUS PLANT SPECIES AND FORESTRY/ WOODLANDS

4.8.1 ALTERNATIVE A – PROPOSED ACTION

4.8.1.1 General Vegetation

Surface disturbance associated with the Proposed Action's road re-construction and upgrades would involve a total of approximately 813 acres, of which approximately 151 acres would be involved with the paved road. Thus, approximately 662 acres would be involved with reclamation, stormwater and erosion control structures, etc. Table 4.8-1 summarizes estimated maximum new surface disturbance by vegetation community, associated with the Proposed Action.

Table 4.8-1 Proposed Surface Disturbance, by Vegetation Community, for the Proposed Action

Vegetation Community	Estimated New Disturbance within Project Area (Acres)	Percent of Project Area
Mixed Desert Shrub	139	21
Wyoming Sagebrush	238	36
Pinyon-Juniper-Sage/Woodland	232[1]	35
Montane Brush/Woodland	53	8
Estimated Total	**662[2]**	**100**

[1]Includes 3 acres outside of the proposed ROW for the two proposed watering ponds (reservoirs), and 2 acres outside of the proposed ROW for relocation of the Monument Ridge Pasture Corral.
[2]Calculation does not include the existing roadway surface (142.9 acres).

The Proposed Action would have both direct and indirect impacts on vegetation resources. Direct effects would include removal of vegetation, modification of species composition and structure, and fragmentation of vegetation communities. Indirect impacts may include increased potential for weed invasion, effects of fugitive dust on plants, increased exposure of soils to accelerated erosion, and degradation and loss of topsoil and soil microorganisms.

Specific actions set out under the Proposed Action, including reclamation of disturbed areas outside the running surface of the paved road, control of soil erosion, minimizing vegetation disturbance, dust abatement measures, and control of noxious weeds, would reduce impacts to vegetation communities in the Project Area. The ability of each vegetation community to successfully recover to pre-disturbance production levels would depend on the disturbed site's specific characteristics. Assuming revegetation actions are successful, the anticipated impacts to vegetation resources would be minimized and relatively short-term in nature (i.e., approximately 8 years).

4.8.1.2 Invasive Plants and Noxious Weeds

The introduction and/or spread of invasive plants and noxious weeds in the Project Area would occur under the Proposed Action. However, the county's proposed BMPs concerning such species would minimize the spread of weeds in the Project Area. Successful reclamation would further reduce the spread of weeds in the Project Area.

4.8.1.3 Special Status Plant Species

Federally-protected plant species could be affected by loss or modification of occupied and/or suitable habitat, an increase in the spread of invasive and noxious weed species and an increase in fugitive dust levels during construction activities.

Clay Reed-mustard

Clay reed-mustard habitat is located approximately 1,325 feet west of the proposed ROW and occurrences of plant individuals/groups are located 3,400 feet west of the proposed ROW (BLM 2008a). As such, the topographic location of the known habitat eliminates the potential for project-related impacts."

Based on the above information, implementation of the Proposed Action would result in a ***no effect*** determination for the federally-listed clay reed-mustard.

Graham beardtongue

BLM data identifies Graham beardtongue habitat and individual plants/plant groups as being located adjacent to the existing Seep Ridge Road (BLM 2008a). Implementation of the Proposed Action may result in the loss of a limited number of plants and known suitable/potential habitat (approximately 2.5 acres). Fugitive dust created during road construction activities could be detrimental to individual plants; however, the paving of Seep Ridge Road would result in long-term reduction in fugitive dust, creating a positive effect for the beardtongue.

Increased roadway infrastructure and vehicle traffic in the Project Area could lead to indirect impacts to the Graham beardtongue. These indirect impacts include loss or modification of potential or suitable habitat and an increase spread of invasive plants and noxious weeds. Weed species may compete with individual special status plants, potentially resulting in loss of individuals and degradation of suitable special status plant habitat. Specific actions set out in Section 2.1 under the Proposed Action that would reduce indirect impacts to special status plant species include: Treatment and control of noxious weeds and invasive plant species, paving the roadway, dust abatement actions during construction activities, and successful reclamation of disturbed areas.

Adherence to the above-mentioned measures would reduce impacts to the Graham beardtongue such that the Proposed Action may affect, but would not likely lead towards federal listing of the Graham beardtongue.

4.8.1.4 Forestry/Woodlands

Construction activities set out in the Proposed Action could likely involve approximately 284 acres of pinyon-juniper and 65 acres of montane brush/woodland communities. These lands may have areas of suitable woodland and/or forestry products. Surface disturbing activities in these communities would result in the direct removal of the woodlands and timber trees. This could result in a negligible loss of revenue to the federal government from wood cutting permits. To offset potential lost federal revenue from commercial trees being removed in the construction areas of the Proposed Action, any marketable forestry products would be cut down in such a manner to allow utilization and the public notified that such forestry products are available.

4.8.2 ALTERNATIVE B – NO ACTION

4.8.2.1 General Vegetation

Under the No Action Alternative no new surface disturbance is anticipated within the existing ROW. Thus, the No Action Alternative would not result in direct impacts to vegetation resources. Fugitive dust control during regular maintenance activities would minimize impacts to roadside vegetation. Expected increases in vehicle traffic along the Seep Ridge Road would result in increased fugitive dust levels over the long-term, thus affecting the long-term health and viability of roadside vegetation.

4.8.2.2 Invasive Plants and Noxious Weeds

Under the No Action Alternative, the increased surface disturbance and opportunity for new infestations of invasive, non-native species would not occur. The county would be required to continue regular monitoring and treatment to control weeds within the existing ROW thus minimizing the presence of invasive and noxious weeds within the ROW corridor.

4.8.2.3 Special Status Plant Species

Clay Reed-mustard

The current road alignment does not involve any occupied clay reed-mustard habitat, thus continued maintenance activities of the existing Seep Ridge Road would not result in direct or indirect impacts to this species. Based on this information, implementation of the No Action Alternative would result in a ***no effect*** determination for the federally-listed clay reed-mustard.

Graham Beardtongue

Under the No Action Alternative, direct impacts to Graham beardtongue habitat would not occur. Indirect impacts would be greater than those proposed under Alternative A. Anticipated increases in vehicle traffic along the Seep Ridge Road from continued energy development operations, coupled with regular maintenance operations of the existing roadway would increase fugitive dust levels over the long-term. Indirect impacts to the Graham beardtongue from fugitive dust are discussed above. The No Action Alternative would result in fewer acres of habitat and individuals being directly affected, but over the long-term indirect impacts from fugitive dust would increase. Thus, actions in this alternative may affect, but would not likely lead towards federal listing of the Graham beardtongue.

4.8.2.4 Forestry/Woodlands

Under the No Action Alternative, the expanded ROW and proposed upgrades would not be completed. Thus, no direct impact to woodlands and forestry resources would occur.

4.8.3 MITIGATION MEASURES

- Recommended conservation measures for the Graham beardtongue have been set out in Appendix F. Implementation of these measures to the Proposed Action would further minimize direct and indirect impacts to this species.
- To offset potential lost federal revenue from commercial trees being removed in the construction areas of the Proposed Action, any marketable forestry products would be cut down in such a manner to allow utilization.

4.9 WILDLIFE AND FISHERIES, INCLUDING SPECIAL STATUS ANIMAL SPECIES

4.9.1 ALTERNATIVE A – PROPOSED ACTION

Principal impacts to wildlife from the Proposed Action include: direct loss, degradation and/or fragmentation of wildlife habitats, displacement of wildlife species in traditional use areas and along historic migration routes, and an increase in the potential for collision between wildlife and motor vehicles due to an increase in speed and traffic.

4.9.1.1 General Wildlife

Estimated total maximum surface disturbance from the Proposed Action within the proposed Seep Ridge Road ROW would be approximately 813 acres. This development would reduce habitat available for a variety of common wildlife species until successful reclamation occurs on approximately 662 acres. Habitat disturbance would be expected to have a minor to moderate impacts on general wildlife species because many of the species (e.g., cottontails, jackrabbits, coyotes, etc.) are habitat generalists, meaning they are not tightly restricted to specific habitat types; and, many of the wildlife populations within the Project Area have likely adapted to the existing road and its associated traffic.

Project implementation would increase habitat loss and habitat fragmentation in the Project Area. Disturbances from improvements to the existing roadway could displace wildlife from habitats in construction areas. Construction activities could last as long as 6 years; concentrating on specific segments of the roadway, and would not involve the entire roadway. When displaced, individuals could move into less suitable habitats or into habitats where inter- and intra-specific competition for resources may occur, resulting in subsequent adverse effects and general distress.

4.9.1.2 Big Game

The impacts from the Proposed Action would be similar for all big game species in the Project Area. Species-specific habitat losses for UDWR-designated big game ranges associated with the Proposed Action are listed in Section 3.9.2.2 for mule deer and Section 3.9.2.3 for elk. A total of 403 acres of mule deer habitat and 397 acres of elk habitat would be involved with the Proposed Action.

Habitat loss and displacement are not limited to actual areas of vegetation removed by surface-disturbing activities. Studies have shown that mule deer will generally avoid human-related activities, and therefore, the amount of suitable habitat loss will be greater than the acreage that is eventually developed (D'Eon and Serrouya 2005; Sawyer et al. 2006). Such studies, while useful, are not necessarily characteristic of all populations. For example, Easterly et al. (1991) found some evidence that mule deer acclimated to human activity associated with energy development. The conflicting results of the studies described above show that habitat selection varies based on factors such as species, topography, landscape, climate, season, and intensity of development. As such, impacts related to habitat loss and animal displacement in the Project Area cannot easily be predicted or quantified, but for the purposes of analysis, it is assumed that habitat loss would exceed those acreages listed above.

As multiple big game herds are currently below UDWR population objectives, the above-mentioned impacts could potentially contribute to other factors already affecting big game populations in the Project Area. However, as surface disturbance associated with the Proposed Action would be localized and would be minimal in relation to the extent of similar habitats across the Book Cliffs area, impacts

associated with the Proposed Action would not likely alter current big game population levels within the Project Area.

Other direct impacts to big game wildlife include a potential for injury or mortality caused by the potential for collisions between wildlife and motor vehicles on the Seep Ridge Road. Although there is no data on reported collisions on the road, it is reasonable to expect the Proposed Action would increase the possibility of such collisions due to changing the speed from 35 to 55 mph. The number and severity of these impacts would depend on the availability of habitats within and outside the Project Area; the sensitivity of the wildlife species to human activities; seasonal and daily timing of construction activities and site-specific topography (e.g., visually-obscured construction sites may affect nearby wildlife less than construction sites in full view). Relocation of water reservoirs and removing existing water sources presently near the road would reduce the numbers of wildlife drawn to the road in search of water; however, migrating big game species would continue to cross the road to reach their seasonal ranges. The county's commitment to study and gather traffic data, discussed in Section 2.1.3, including accidents along the roadway would identify potential problems that may need further discussion and assessment to resolve. As multiple big game herds are currently below UDWR population objectives, the above-mentioned impacts could potentially contribute to other factors already affecting big game populations in the Project Area, including the existing roadway.

Seasonal timing restrictions outlined in the VFO Approved RMP would apply to portions of mule deer and elk habitat in the Project Area to minimize potential impacts resulting from project activities. Specifically, no surface disturbance activities that could result in adverse impacts to deer or elk would be allowed within crucial time periods for specific habitats (BLM 2008a). Construction timing restrictions are described in detail in Section 4.9.2, Mitigation Measures.

4.9.1.3 Raptors

Implementation of the Proposed Action could affect nesting and breeding raptors that utilize the Project Area. Direct and indirect impacts to raptors may include temporary displacement from suitable habitats during the breeding season due to increased noise levels and visual disturbances on the landscape and a reduction in habitat for prey species due to habitat loss.

Surface-disturbing activities in close proximity (e.g., ½-mile) of an active raptor nest could lead to temporary displacement from nesting sites, avoidance of affected areas, and deterrence from establishing other nesting sites. Displacement could lead to nest failure or nest abandonment, thereby affecting the breeding pair and their annual productivity. Steidl and Anthony (2000) suggest that the greatest energetic costs from disturbance occur in nestlings, potentially decreasing overall reproductive success. Displacement could also lead to increased use of adjacent habitats, which could lead to increased inter- and intra-specific competitions for resources. Surface-disturbing activities in the proximity of an active golden eagle nest could potentially disturb breeding and nesting activities. However, as increased noise levels and visual disturbances associated with construction would be localized and short-term, displacement to adjacent habitats would likely be temporary in nature and would not likely alter the productivity of current raptor populations within the Project Area. In addition, although human activity has been shown to adversely impact breeding raptors, some evidence of raptor habituation to human-induced disturbances has also been documented (Anderson et al. 1989; Steidl and Anthony 2000; Rodriguez-Estrella et al. 1998). In addition, construction activities may discourage utilization of or directly impact the two red-tailed hawk nests located within the Project Area, and the two red-tailed hawk nests and the one golden eagle nest that were identified within 0.5 miles of the Project Area boundary.

In addition, paving of the road would result in the direct loss of approximately 151 acres of habitat for raptor prey species such as mammals, songbirds, and reptiles and would temporarily affect approximately

662 acres of such habitat due to construction related activities. These impacts would last until successful reclamation is achieved. Rodriguez-Estrella et al. (1998) identified loss or fragmentation of habitat of prey species as a contributor to raptor population declines. The reduction in prey habitat in the Project Area would be compounded by prey base losses that are already occurring in the Uinta Basin due to drought.

4.9.1.4 Migratory Birds

Impacts to migratory birds in the Project Area from the Proposed Action would be similar for all migratory bird species, but would vary depending on loss of habitat types and the species' sensitivity to disturbance. For the purposes of impact analyses in this EA, impacts to migratory birds within the Project Area are discussed together. The Proposed Action would involve a total of approximately 813 acres. Successful reclamation in the vegetation communities not immediately associated with the running surface of the road and its associated ditches and stormwater control devices, as well as control of noxious weeds and invasive species, would reduce the loss of nesting and foraging habitats for migratory birds over time.

Other impacts associated with the implementation of the Proposed Action would be dependent upon seasonal timing of construction activities. Construction activities, including visual and noise intrusions during the spring and early summer months would have the greatest disruption to migratory bird breeding and nesting activities. These impacts include displacement and possible abandonment of nest sites, thus reducing overall species productivity (Renfrew et al. 2005). If construction activities were conducted in the fall months, impacts to migratory birds would be reduced due to the likelihood that such species would have left the Project Area for their southern wintering areas.

4.9.1.5 Special Status Wildlife and Fish Species

Special Status Mammals Species

White-tailed Prairie Dog

Implementation of the Proposed Action could result in direct adverse impacts to the white-tailed prairie dog colonies located in or adjacent to the Project Area. These impacts include: construction activities and increased human presence during the period April – July 15, when females and pups are most vulnerable (Seglund 2004) and habitat modification/fragmentation due to loss of vegetation. However, due to the scattered burrows and poorly developed colonies involved with the Proposed Action, the proposed surface disturbance could result in minimal loss of white-tailed prairie dogs, and minimal impacts to their habitat.

Potential indirect effects to the white-tailed prairie dog include potential increased hunting pressure from increased human visitation to the habitat areas resulting from paving the roadway. Gordon et al. (2003) found that shooting pressure was greatest at prairie dog colonies within easy road access as compared to more remote colonies.

As such, the Proposed Action may affect white-tailed prairie dogs, but would not likely result in a trend towards federal listing of the species.

Bats

Implementation of the Proposed Action could disturb potential foraging habitat for bat species that may utilize the Project Area. As traffic within the Project Area is expected to continue to increase, roosting sites associated with nearby Willow Creek and other cliff areas adjacent to the ROW could be impacted

and potentially abandoned. In addition, the loss of potential prey species and decreased availability and use of certain habitats through displacement, habitat fragmentation, and habitat modification could occur. However, as extensive suitable prey habitat occurs outside the Project Area, these impacts would likely be minimal.

Special Status Bird Species

Greater Sage Grouse

Implementation of the Proposed Action could impact sage grouse by disrupting historical bird movement across the Seep Ridge Road, depending on the location of surface-disturbing activities and surface facilities relative to these historical seasonal crossing areas. Surface-disturbing activities, increased human activities and traffic noise in the proximity of these crossing sites could potentially disrupt sage grouse movement across the ROW. There is a reasonable likelihood that proposed road improvements would increase the traffic levels on the road, thus increasing the potential for vehicle collisions with sage grouse crossing the road.

Vegetation removal within sagebrush communities of the Project Area would result in the direct loss of sage grouse habitat. Under the Proposed Action, reclamation efforts, in conjunction with implementation of a weed control plan, could reduce the loss of habitat for sage grouse. The Proposed Action may affect individual sage grouse, but would not likely result in a trend towards federal listing of the species.

Golden Eagle

Implementation of the Proposed Action could impact both breeding and wintering golden eagles, depending on the location of surface-disturbing activities and surface facilities relative to occupied territories, active or inactive nest sites, or wintering areas. Surface-disturbing activities in the proximity of an active golden eagle nest could potentially disturb breeding and nesting activities. Temporary displacement of eagles or avoidance of nesting sites would be caused by increased human activity, traffic, and traffic levels. Since golden eagles often alternate between nest sites within a breeding territory, any surface facilities where ongoing traffic or human presence occurs could prevent inactive nests from being used in the future. Potential long-term negative effects due to loss of raptor and prey habitat area anticipated to be minimal due to the majority of the construction activities taking place within the existing road ROW. As previously stated, no golden eagle nests were identified within the Project Area, and a single nest occurring within 0.5 mile of the Project Area was documented by the BLM. Golden eagles are known to forage within the vicinity of the Project Area. Potential increased animal:vehicle collisions could result in increased carrion along the roadway. The increased carrion could attract a higher number of golden eagles to the roadway which could then elevate the existing threat of golden eagle:vehicle collisions. Impacts to golden eagles would be reduced or fully negated with the implementation for the county's commitments set out in Section 2.1.5.5.

Vegetation removal associated with the Proposed Action would result in the indirect loss of about 813 acres of prey species habitat (e.g., ground squirrels, prairie dogs, and rabbits). The loss of some prey species may limit foraging opportunities for individual eagles. In addition, golden eagles may avoid hunting grounds where construction activities are taking place. Under the Proposed Action, reclamation efforts, in conjunction with implementation of a weed control plan, could somewhat restore prey habitat losses for golden eagles over time.

Burrowing Owl

As previously stated, burrowing owl surveys have not been completed for the Project Area. Suitable nesting habitat has been identified within the Project Area and immediate vicinity (northern portion of the Project Area, in prairie dog colonies). However, existing prairie dog habitat is limited and population numbers are low within the existing scattered colonies. If burrowing owls occur within the Project Area, impacts from the Proposed Action could result in temporary displacement of owls or their avoidance of ground nests in the vicinity of construction activities. Overall, the Proposed Action may affect individual burrowing owls through habitat loss, displacement, mortality, or loss of prey base, but would not likely result in a trend towards federal listing of the species. In addition, potential impacts to burrowing owls would be reduced or fully negated with the implementation of the county commitments in Section 2.1.5.5.

Special Status Fish Species

The Proposed Action would result in direct impacts to the Colorado River fish and their habitats from water depletions from the White and Green Rivers and increased sediment to these same rivers.

Implementation of the Proposed Action could result in direct impacts to the endangered Colorado River fish from increased sediment in the Green and White Rivers. An estimated total of approximately 480 tons of sediment could be produced annually during the 6 years of construction and 2 years following reclamation activities. An unquantifiable portion of that sediment volume could enter the White River, approximately 12 miles to the north of the Project Area. Indirect affects would also be realized from water depletions in the Colorado River Watershed.

Paving the Seep Ridge Road and implementation of measures to ensure continued floodplain integrity associated with the West and East Forks of Cottonwood Wash, such as utilizing appropriate erosion control measures, diverting stormwater runoff via water dissipating devices (i.e., water turnouts) would reduce the amount of sediment entering the drainages and ultimate the White and Green Rivers (refer to Section 2.1.1).

Sediment loading has not yet been identified as an issue of concern within the existing roadway. However, due to the existing unpaved road surface and the lack of adequate sediment control features, there is currently a threat of future adverse impacts from sedimentation and erosion. Upgrading the existing road to a paved surface and including the sediment-controlling design features previously mentioned are anticipated to improve the existing conditions. Therefore, the Proposed Action would have minimal impacts to the federally-listed fish species occurring in Uintah County.

Fugitive dust suppression on the proposed upgrades to the road would require approximately 426 acre-ft of water over the 6 years of construction (or approximately 71 acre-ft per year). The use of this water would constitute a depletion. Needed water would be acquired from an existing historic source. Water depletions from the White and Green Rivers can reduce the rivers' ability to create and maintain the physical habitat (areas inhabited or potentially habitable for spawning, development of fish larvae, feeding, or serving as corridors between these areas) and the biological environment required by the endangered Colorado River fish. Water depletions can also contribute to alterations in flow regimes that favor non-native fish.

On January 21-22, 1988, the Secretary of the Interior, the Governors of Wyoming, Colorado, and Utah; and, the Administrator of the Western Area Power Administration were consigners of a Cooperative Agreement to implement the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (Recovery Program (Service 1987). An objective of the Recovery Program

was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the listed species while providing for new water development in the Upper Colorado River Drainage Basin.

The water used for this project will be obtained from the Uintah Water Conservancy District which is permitted as a historic depletion (permitted prior to January 1988). The Service addresses new and historic depletions differently under the Section 7 agreement of March 11, 1993. Historic depletions, regardless of size, do not pay a depletion fee to the Recovery Program.

Therefore, it has been determined that implementation of the Proposed Action ***"may affect, and is likely to adversely affect"*** the federally-listed fish species occurring in Uintah County due to utilization of a water source within the Green River Basin (Upper Colorado River Basin). In order to address depletion (and other) impacts on the endangered Colorado River fish, a Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) was initiated on January 22, 1988. Under the 1988 Recovery Program, any water depletions from tributary waters within the Colorado River drainage are considered to "*jeopardize the continued existence*" of these fish. In order to further define and clarify the recovery processes in the Recovery Program, a Section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants. Because the water source for the Proposed Action is a historic source (i.e., existed prior to January 1988), consultation on the depletion was included in the 1993 agreement. Therefore, no further consultation is needed in terms of water depletion for this project.

4.9.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative the construction activities set out in the Proposed Action would not occur. Potential impacts to general wildlife species, including big game, raptors, and migratory birds from continued maintenance operations conducted on the Seep Ridge Road remain at current levels associated with the existing roadway.

Special Status Fish Species

Regular maintenance activities on the Seep Ridge would include installation of needed storm water control devices and normal maintenance actions to the road itself. To control fugitive dust during these annual activities, approximately 40 acre-ft of water could be needed. As with the Proposed Action needed water would be acquired from the Uintah Water Conservancy District, an historic source. Sediment produced from maintenance actions on the native material roadway would enter drainages associated with existing Seep Ridge Road ROW during flood events. This sediment would enter the ephemeral drainages in the Project Area and some quantity of this sediment would enter the larger ephemeral drainages, such as Cottonwood Wash, Sand Wash, Sweet Water Canyon and Bitter Creek on the east side of the road, and Sunday School Canyon on the west side of the road, and would ultimately be deposited into the White and Green Rivers. The county's implementation of storm water control devices and road design features during regular maintenance activities would minimize sediment coming from the existing road.

As previously mentioned sediment loading has not yet been identified as an issue with the existing road. However, the existing road surface material, required annual maintenance activities, and the lack of adequate sediment control features increase the potential for sediment to enter the Green and White Rivers. In addition, the annual maintenance activities require the use of an historic water depletion. There is has been determined that the No Action Alternative ***"may affect, is not likely to adversely afafect"*** the federally-listed fish species occurring in Uintah County.

4.9.3 MITIGATION MEASURES

The following mitigation measures are required to further reduce and/or minimize impacts to wildlife species:

The following timing restrictions would further reduce impacts to wildlife species from implementation of the Proposed Action:

- Surface-disturbing activities would be prohibited within the Monument Ridge mule deer migration corridor from April 15 to May 31.
- Road construction activities that would be prohibited within crucial deer and elk winter range between December 1 and April 30.
- Project construction activities would be prohibited within crucial elk calving and deer fawning habitats from May 15 through June 30.
- Surface disturbing activities would be prohibited within sage-grouse brooding habitat between March 1 – June 15 in Section 33, T15S R24E.
- In addition, BLM recommends that the March 1-June 15 timing restriction also be applied to brooding habitat located within state-administered lands.

4.10 LIVESTOCK GRAZING

4.10.1 ALTERNATIVE A – PROPOSED ACTION

The Proposed Action could result in direct impacts to livestock grazing, including loss of usable forage, loss of usability of existing rangeland improvement structures and increased likelihood of animal:vehicle collisions.

The Proposed Action would involve the removal of approximately 682 acres of usable vegetation in grazing allotments in the Project Area. As a result of this disturbance, approximately 52 AUMs would be lost. Table 4.10-1 provides a breakdown of estimated loss of livestock AUMs by grazing allotment. As shown, activities under the Proposed Action would result in less than 1 percent reduction of vegetation/forage in allotments within the Project Area.

Table 4.10-1 Estimated Loss of Livestock AUMs from the Proposed Action

Name	Total Active AUMs	Estimated Disturbance in Usable Acres of Project Area (Acres)	Active AUMs in Affected in Project Area	Percent AUMs Lost in Project Area
Olsen AMP	9,268	33	3	<.01
Sand Wash	8,176	223	25	<.01
Sunday School Canyon	4,106	162	13	<,.01
Sweet Water	8,391	140	11	<.01
Total	**29,941**	**558**	**52**	**<.01**

*Usable acreage on slopes less than or equal to 40 percent slope and on BLM-administered lands only.

The proposed Seep Ridge Road development has the potential to directly affect multiple livestock watering sources. Direct impacts include but are not limited to the removal and/or physical alteration of a water reservoir site and/or the apron and drainage supplying the water. These impacts result in an

alteration of livestock and wildlife grazing habitats and use patterns associated with reservoirs throughout the Project Area. Several sites (12 watering ponds/reservoirs) have been identified that may be impacted by the Proposed Action or serve as possible mitigation sites. However, it is very difficult to discern all of the potential impacts that may result to the water sources utilized by livestock and wildlife along the proposed road until construction occurs and animal habits and patterns of usage become apparent. Other existing rangeland improvement structures, including cattleguards and the Monument Ridge Pasture Corral, would be directly affected by the proposed widening of the ROW and the realignment of the roadway itself. Temporary disruption to these facilities during construction activities would disrupt ongoing grazing operations in the Project Area.

Specific best management practices and applicant-committed protection measures outlined in Section 2.1.5.6 under the Proposed Action would reduce impacts to livestock grazing. These actions include reclamation, replacement or repair of impacted existing range improvement structures (i.e., fences, cattleguards, water structures, corrals) and control of invasive species and noxious weeds.

The expected increase in traffic on the improved Seep Ridge Road and the increased speed could increase the potential for animal:vehicle collisions. Although limited traffic use data is available, animal:vehicle collision data for the roadway is unreliable. The county has committed to initiate a 5-year study to acquire baseline traffic use data, including accident reports, upon completion of construction activities. The county would then continue regular monitoring of traffic patterns, usage, and accidents (including animal:vehicle collisions). If monitoring reveals at least a 25 percent increase in the number of collisions over the established baseline, the county would then consider the need to fence the ROW (refer to Section 2.1.3).

Adherence to the best management practices and applicant-committed protection measures would reduce impacts to livestock and rangeland improvement facilities in the Project Area.

4.10.2 ALTERNATIVE B – NO ACTION

Impacts to livestock grazing and facilities under the No Action Alternative would remain unchanged from current conditions and trends. Because the proposed improvements would not be realized there would be no new temporary or long-term loss of AUMs from surface disturbance; traditional livestock operations would continue essentially unchanged from the current situation.

4.10.3 MITIGATION MEASURES

The county has committed to ensure the continued integrity of existing rangeland improvement structures and to replace structures that can not be avoided. Currently at least 12 watering ponds/reservoirs have been identified (12 sites identified, plus an additional 2 sites that may have been missed). The county, in coordination with the BLM and the affected grazing permittee, should monitor the proposed project's development to discern changes in animal movements and use of the watering ponds/reservoirs. Ponds that would be maintained or created to minimize impacts to livestock grazing would need to be evaluated under site-specific NEPA and should not be discussed further in this document.

4.11 RECREATION (INCLUDING TRAVEL MANAGEMENT)

4.11.1 ALTERNATIVE A – PROPOSED ACTION

Potential impacts to recreation and travel management from implementation of the Proposed Action include: Direct impacts to dispersed as well as planned/designated recreation facilities and

recreationists/hunters using OHVs on and adjacent to the Seep Ridge Road and indirect impacts to visitors' expectations of the Book Cliffs area.

Under the Proposed Action, once completed, the proposed improvements to the Seep Ridge Road would improve overall access to the popular Book Cliffs area; however, it would invite increased visitation to the area, affecting the remote character of the area and reducing the recreational experience for some visitors and/or hunters to the area. Individuals that are attracted to backcountry recreation would encounter additional visitors, and its attendant noise and traffic, in an area where limited visitation has historically occurred. "New visitors" drawn to the area may have unmet expectations in the minimal and relatively primitive recreation developments in the area.

In the Book Cliffs area the highly desirous limited entry big game hunts extend from mid-August through mid-November. Construction activities along the Seep Ridge Road during these times would disrupt big game movement in the Book Cliffs area and hinder hunters attempting to reach their hunting and camping destinations. These impacts would lessen the hunting experience for some hunters and hinder the hunters' success. The largest number of hunters afield generally occur on the opening weekend of the hunt, thus the greatest impact to hunters is likely to occur during these periods. Construction activities could also temporarily affect the number of applications for UDWR's limited hunts. However, upon completion of the proposed improvements, the number of applications would return, if not increase, to their prior-construction level.

The two existing camp sites and dispersed camp sites along the Seep Ridge Road would be directly affected by construction activities with the ROW. Heavy truck traffic and construction activities would result in temporary increase in noise and fugitive dust situations that would be unacceptable conditions for visitors wishing to use these sites. Although the county would control fugitive dust by watering the roadway during construction activities, visitors would likely relocate to other recreation sites along the Book Cliff Divide road or to other dispersed camp sites in the area. These impacts would be temporary, i.e., not extending over the entire 6-year construction life of the project, and would be outweighed by the long-term positive benefit of eliminating fugitive dust from the Seep Ridge Road.

OHV users and slow-moving recreational vehicles entering and/or exiting the Seep Ridge Road from camp sites and existing roads and trails in the Book Cliffs area would be affected by the temporary increase in the number of construction-related vehicles and the expected increase in overall vehicle traffic on the Seep Ridge Road once the improvements are completed. These direct impacts would be minimized by the county's commitment to properly design the roadway in areas of congestion, install warning signs and post an advisory lowered speed limit of 40 mph in popular recreation areas along the Seep Ridge Road. Barricading closed abandoned and reclaimed segments of the existing Seep Ridge Road would minimize the likelihood of unauthorized vehicle traffic on these segments and enhance the opportunity for successful reclamation (refer to Sections 2.1; 2.1.1; 2.1.5.7; 2.1.5.8; and, the reclamation plan in Appendix C).

4.11.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, the existing Seep Ridge Road alignment and conditions would likely not change appreciably. As such the impacts to recreation, and travel management, from the no action alternative would be similar to but lower in magnitude than the Proposed Action due to reduced extent of road improvements.

4.11.3 MITIGATION MEASURES

To minimize impacts to hunters' expectations and to maintain access to hunting and camping areas during the big game hunting seasons, construction activities along the Seep Ridge Road should be halted during the opening weekend of each of the big game hunts in the Book Cliffs Management Area.

4.12 LANDS/ACCESS

4.12.1 ALTERNATIVE A – PROPOSED ACTION

The surface disturbing actions of the Proposed Action could affect other existing authorizations that are either currently co-located within the existing Seep Ridge Road ROW or that cross the ROW. These actions could affect the continued operations of the pipelines or damage to the pipelines. This impact would be minimized by the county's commitment to consult with any grantor before any surface disturbance is initiated that would compromise the integrity of a pipeline and to work with the operator to minimize disruptions to ongoing pipeline operations (refer to Section 2.1.5.7).

4.12.2 ALTERNATIVE B – NO ACTION

Under the No Action Alternative, the planned ROW expansion and subsequent upgrades would not occur and there would be no impacts to existing co-located pipelines that parallel or cross the existing Seep Ridge Road ROW.

4.12.3 MITIGATION MEASURES

No mitigation measures are recommended.

This page intentionally left blank.

5.0 - CUMULATIVE IMPACTS ANALYSIS

Cumulative impacts result from the incremental impacts of an action when added to past, present, and reasonably foreseeable future actions, regardless of who takes the action. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. This chapter discusses cumulative impacts as the incremental effect to specific resources or issues that would occur from Alternatives A and B, in conjunction with other past or reasonably foreseeable actions.

5.1 REASONABLY FORESEEABLE DEVELOPMENT

In support of the cumulative impact discussion, this chapter provides a discussion of past and present oil and gas activities in the Uinta Basin, both of which serve as introductions to the outlook for reasonably foreseeable development (RFD) in the Project Area and the greater Uinta Basin. The Seep Ridge Road is a major access artery serving the Uinta Basin. The cumulative impact and RFD analysis is based upon the level of activities and actions identified in the VFO Mineral Potential Report (BLM 2002) which projected environmental impacts across a 15-year period. This RFD was reviewed in 2008 for oil and gas development, which would be the most significant development activity expected in the VFO Planning Area. During this review the BLM determined that the RFD, as an analytical tool, could only accurately project environmental impacts for up to five years (BLM 2008a), i.e., five years from the time that the ROD for the VFO Approved RMP is signed.

Other activities with the potential to contribute to cumulative impacts would be livestock grazing and recreational projects. Spatial boundaries for cumulative impact assessments vary and are larger for resources that are mobile or migrate (i.e., air quality) compared to resources that are stationary or that have defined boundaries. For the analysis purposed of this EA, the Cumulative Impact Analysis Area (CIAA) for most resources is the VFO Planning Area which encompasses approximately 5.5 million acres in Duchesne, Daggett, Uintah, and Grand Counties.

5.1.1 OIL AND GAS

The Uinta Basin is a significant source of natural gas and oil, and it is currently one of the most active oil and gas producing areas in the onshore U.S. Development is currently proposed throughout the Uinta Basin, encompassing BLM, Tribal, and National Forest lands, with exploratory drilling taking place in the western and southern portions of the Basin.

Future oil and gas development in the Uinta Basin will depend upon the feasibility of exploration, as determined by the underlying geology and further infill development projects within the Basin. Future development will be dependent upon the geologic feasibility of each prospect, the cost to develop the resources, and continued engineering technological advancements. s of January 2008, according to UDOGM data, approximately 9,171 wells had been drilled in the VFO Uintah Basin. The cumulative scenario for this EA is based on the number of existing wells in the VFO RMP Planning Area, as well as the estimated total number of wells anticipated to be drilled over the coming 5 years in this same area as analyzed in the Vernal Field Office's final EIS associated with the proposed RMP (2008c). Under the VFO Approved RMP, an estimated 6,530 additional oil and gas wells are anticipated in the VFO Planning Area through 2013. This number may be conservative. Currently the BLM is considering three field development plans that could involve an estimated total of approximately 13,000 wells over the next 10 years.

5.1.2 WILDLIFE

Hunting generates considerable revenue for the State of Utah; hunters can generate considerable funds to local economies during popular and well-attended hunting periods. The State of Utah has current Herd and Wildlife Management Plans in place covering wildlife management in the Uinta Basin. These plans outline management herd objectives that would maintain and/or allow increased wildlife numbers over the next 10 years. Specific management actions identify habitat improvement projects that would sustain wildlife habitat, and thus desired wildlife populations, for the long-term. Many of these management goals and objectives have been considered and carried forward into the VFO Approved RMP (BLM 2008a). It is reasonable to expect that the State of Utah will continue to actively realize their management goals and population objectives for key wildlife species occurring in the Uinta Basin.

5.1.3 LIVESTOCK GRAZING

Livestock grazing is currently a permitted use of public lands within the VFO Planning Area. The BLM currently administers livestock grazing on 147 allotments, involving 153,370 AUMs. Although livestock industry changes may be expected over the next few years, primarily related to marketing trends and conditions, it is reasonable to expect that livestock grazing would continue with only minor changes. However, current and anticipated trends in other authorized uses involving public lands are expected to increase over the next several years. These authorized uses can have long-term cumulative impacts to livestock grazing, as surface disturbance associated with these projects can directly affect the continued usability of livestock allotments by livestock, reduce the amount of available forage to livestock, and reduce the quality of the forage by the spread of invasive plants and noxious weeds. Successful reclamation and aggressive control of invasive plants and noxious weeds are expected to minimize these impacts to livestock grazing over the long-term.

5.1.4 RECREATION

Continued population growth in the region, primarily due to continued energy development, will result in developed and dispersed recreational opportunities. The recreation designations and developments implemented to meet the expected increased demand would have beneficial impacts on recreation, but would also affect the management of other resources in the Cumulative Impact Analysis Area (CIAA).

5.2 CUMULATIVE IMPACTS

5.2.1 INTRODUCTION

This section discloses the impacts expected when the Proposed Action or alternative assessed in this EA are added to the past and reasonably foreseeable actions.

5.2.2 AIR QUALITY

The CIAA for air quality is defined as the Uinta Basin and northwestern Colorado. Cumulative air quality impacts are defined as the combination of emissions resulting from the Proposed Action or alternatives, existing nearby permitted sources, and RFD within the region. Areas of concern include the Uinta Basin, the High Uintah Wilderness Area, as well as nearby mandatory federal PSD Class I areas such as Arches and Canyonlands National Parks and Flat Tops Wilderness. Potential Air Quality Related Value (AQRV) impacts to sensitive areas include regional impacts on visibility, total nitrogen and sulfur deposition, and Acid Neutralization Capacity (ANC).

It is anticipated that the level of natural gas development within this region of the State will continue over the next few years; however the pace of such development will likely depend on market conditions. This development will add incrementally to air quality impacts from emissions sources. The Draft EIS and RMP for the VFO (BLM 2005a) has recently addressed the impacts to air quality in the Uinta Basin and surrounding areas of special concern, considering both existing permitted sources and an extended look at development over a fifteen year timeframe. The development alternatives were based on BLM's proposed plans for resource development, which included energy development along with other foreseeable development activities by non-BLM entities. The air quality models developed to analyze impacts to air quality were developed for the Uinta Basin and surrounding areas of special concern, i.e., on a regional basis. In general, results from this analysis indicate that existing air quality in the region is good, and based on reasonable development scenarios in conjunction with existing sources, is not of great concern. Cumulative energy development activities in the Uinta Basin are not expected to affect attainment of NAAQS standards or regional PSD increments.

In general, the increase in fugitive dust levels associated with the proposed improvements to the Seep Ridge Road would be temporary and localized; over the long-term, paving the road would reduce fugitive dust levels in the Project Area. In relation to the other ongoing and planned actions affecting air quality, the upgrade and paving of the Seep Ridge Road would have a limited positive effect on regional air quality. Therefore, it is unlikely that the proposed project would result in a detectable cumulative change to air quality at a regional scale.

5.2.3 CULTURAL RESOURCES

The CIAA for cultural resources is the Project Area because cultural sites are discrete which means impacts are not necessarily additive across a landscape. Impacts to the cultural resources in the CIAA would primarily result from activities associated with surface and subsurface disturbance. Historical and previous development activities have resulted in considerable surface disturbance within the CIAA. Impacts to cultural resources have been minimized by the requirement to conduct field surveys prior to surface-disturbing actions and to avoid or otherwise mitigate adverse impacts to significant and/or important cultural resources. Future impacts to the cultural resources in the CIAA would result primarily from surface disturbance associated with continued oil and gas development projects and increased visitation to the Project Area. Impacts may also result from specific cultural resource management decisions and from non-surface-disturbing activities that create atmospheric, visual, and/or auditory effects. These latter impacts would apply to sites or locations that together comprise the overall cultural experience for all visitors to the area, and especially to those deemed sacred or traditionally important by Native American Tribes and used by these groups in such a manner that atmospheric change, visual obstructions, and/or noise levels impinge upon that use. These types of impacts cumulatively affect not only the historic setting, feeling, and viewshed of cultural properties, but also their eligibility potential for nomination to the NRHP.

5.2.4 PALEONTOLOGY

As potential impacts to paleontological resources across a geographic landscape are not additive, the CIAA for paleontological resources is defined as the existing Project Area. Cumulative impacts to the paleontological resources in the CIAA would primarily result from activities associated with surface and subsurface disturbance. Surface-disturbing activities could affect paleontological resources by damaging or destroying fossils. Adverse effects include physical damage to or destruction of fossils, as well as increased vandalism and theft that result from improved access to fossil localities. However, if paleontological resources are discovered during surface-disturbing activities in the Project Area, mitigation measures would be implemented before surface-disturbing activities in that area are allowed to continue, cumulative impacts associated with the Proposed Action or alternatives are expected to be

minimal. Improved public access could increase vandalism and theft of significant paleontological resources in the immediate Project Area.

Surface-disturbing activities could also have a beneficial effect on paleontological resources by drawing the attention of a qualified paleontologist to areas that are not currently being researched, resulting in the collection of specimens and data that would not otherwise be recovered.

5.2.5 SOILS

The CIAA for soil resources is the VFO Planning Area. Past, present, and future surface disturbance in the CIAA is estimated at 49,029 acres, or less than 1 percent of the CIAA. Any land-disturbing activity that removes native vegetation and topsoil can result in an increase in erosion rates and sediment yield. Authorized actions that could result in increased erosion and sediment yield within the CIAA include oil and gas development, livestock grazing, recreation, mining activities (Gilsonite, sand and gravel, and, potentially oil shale), and road construction and maintenance operations. Of these potential soil-disturbing activities, existing and proposed roads are the features of highest concern. Active roadways would not be reclaimed, thus sediment yield from roads could continue at rates two to three times above background rates into the indefinite future.

Compaction due to construction activities at well pads, along access roads, and in other disturbed areas would result in a small increase in surface runoff from the area. This increased runoff could in turn cause increased sheet, rill, and gully erosion.

Surface disturbance associated with the Proposed Action and alternatives when added to past, present, and reasonably foreseeable actions would have minimal impacts on soil resources across the CIAA. BMPs and applicant-committed protection measures, adherence to current federal and state design requirements including berms, sediment control and stormwater structures, paving and adherence to regular maintenance operations, would reduce the impacts of the Proposed Action on soil resources by minimizing soil erosion, and by reducing the potential for soil contamination.

5.2.6 WATER QUALITY (SURFACE/GROUND)

The CIAA for water resources (including floodplains) is the BLM VFO Planning Area. The Proposed Action would result in a slight temporary increase in erosion rates and sediment yield. Impacts to water resources would be similar to those discussed above for soil resources. Rapid and successful reclamation/re-vegetation of temporarily disturbed areas not associated with the running surface and shoulder areas of the proposed road, use of erosion control devices, and implementation of BMPs are particularly important in minimizing water quality impacts and in assuring maintenance of long-term stream health. Design features of the Proposed Action and alternatives, including berms and sediment control structures would minimize additional erosion and delivery of sediment from the proposed project.

The existing road would continue to contribute slightly greater runoff than undisturbed sites. Increased runoff could lead to slightly higher peak flows in the Green River, potentially increasing erosion of the channel banks. Increased erosion would also potentially increase turbidity in the river during storm events.

The Proposed Action and alternatives when added to past, present, and reasonably foreseeable actions would have minimal impacts on soil resources across the CIAA.

5.2.7 FLOODPLAINS

The CIAA for floodplains is the BLM VFO Planning Area. Impacts to floodplains would be similar to those impacts discussed above in Sections 5.2.5 and 5.2.6 for soils and water quality. Implementation of best management practices to minimize impacts to soils and water quality would have similar, positive impacts to floodplains.

5.2.8 VEGETATION, INCLUDING INVASIVE PLANTS AND NOXIOUS WEEDS, SPECIAL STATUS PLANT SPECIES AND FORESTRY/WOODLANDS

The CIAA for vegetation and invasive species is the BLM VFO Planning Area. Existing and RFD development projects in the CIAA have or would construct and/or upgrade approximately 2,724 miles of road, and disturb approximately 49,029 acres of existing vegetation. In addition, existing and reasonably foreseeable forage used by livestock grazing, wild horses, wildlife, and recreational use of habitats, mining activities, and prescribed burns would also potentially disturb existing vegetation throughout the CIAA. Specific negative effects associated with the proposed development in the CIAA could include 1) reduction in the overall visual character of an area; 2) reduction or fragmentation of wildlife habitats; 3) increased soil erosion; and 4) increased potential for weed invasion.

Invasive weed species are a major concern in the Uinta Basin. Weed Management Areas have been established through interagency planning and coordination and treatment to find and effectively control stands of invasive and noxious species. Specific negative effects of invasive plants and noxious weeds associated with proposed development in the CIAA could include (1) reduction in the overall visual character of the area; (2) competition with, or elimination of native plants; (3) reduction or fragmentation of wildlife habitats; and (4) increased soil erosion.

The CIAA for special status plant species is the known occurrences of Graham beardtongue because they occur in discrete impacts, and impacts to those areas are not necessarily additive across the landscape. However, as the habitats have not been fully mapped and the population estimates are unknown, disturbance in the CIAA cannot be accurately quantified.

The Proposed Action and alternatives could impact the Graham beardtongue and its suitable habitat, which would incrementally contribute to cumulative impacts affecting habitats and populations of this special status plant species. Existing and reasonably foreseeable oil and gas projects have and would continue to contribute to incremental loss and fragmentation of suitable plant habitat within the Project Area and surrounding areas for this species. These activities could also have indirect effects, such as sedimentation and weed invasion, which would cumulatively decrease the plants' recovery potential. In addition, forage use by livestock grazing, wild horses, wildlife, and additional recreational use could also disturb plant habitat in and near the Project Area. These reductions of habitat could be compounded by other losses resulting from non-human induced conditions such as a prolonged drought.

Adherence to conservation measures/practices to afford protective distances from proposed development to plants and/or their occupied habitats could reduce cumulative impacts. Assuming adherence to the above mentioned conservation measures, activities related to other activities in the CIAA would not lead to the need for federal listing of the Graham beardtongue.

The CIAA for forestry/woodlands is the BLM VFO Planning Area. Reasonably foreseeable future actions primarily related to locate and develop mineral and other hydrocarbon resources would have the potential for the greatest impacts on woodland resources. The removal of the woodland and timber forests would result in cumulative long-term impacts to the forestry resources in the area. Surface

management agencies planning efforts to manage prescribed burns and wildfires in these forested areas would have direct impact on stand diversity and overall forest health. These plans would result in cumulative positive, long-term impacts. Failure to complete proper planning coordination could result in the potential increased loss and/or degradation of woodland resources. The VFO Approved RMP outlines habitat improvement on approximately 156,425 acres of woodland per decade. The Proposed Action would involve 255 acres of pinyon-juniper woodlands and montane brush/woodland areas, less than 1 percent of BLM's management strategy for woodland habitat management.

5.2.9 WILDLIFE AND FISHERIES, INCLUDING SPECIAL STATUS ANIMAL SPECIES

The CIAA for wildlife (including special status wildlife and fishery species) is the VFO Planning Area. Past and present actions in the CIAA (including minerals development, road construction, and livestock improvements among others) have caused direct habitat loss and/or degradation of habitat, contributed to habitat fragmentation, displaced individual wildlife species, increased collisions between wildlife and vehicles, and potentially contributed to the poaching and general harassment of wildlife. Recreation and livestock grazing within the CIAA has also contributed to cumulative impacts to wildlife; however, the incremental contributions of these activities are not quantifiable. Total cumulative surface disturbance from existing active wells and estimated RFD of oil and gas activities in the CIAA is estimated to be approximately 49,029 acres.

While surface disturbance somewhat corresponds to associated wildlife habitat loss, more accurate calculations of total cumulative wildlife habitat loss are not determinable because impacts are species-specific and dependent upon the following: (1) the status and condition of the population(s) or individual animals being affected; (2) seasonal timing of the disturbance; (3) value and quality of the habitats; (4) physical parameters of the affected and nearby habitats (e.g., the extent of topographical relief and vegetative cover); and (5) the type of surface disturbance. However, surface disturbance calculations are considered a useful indicator of habitat loss because as habitats are removed to support oil and gas development, mining, and other development activities, wildlife carrying capacities of an area would be reduced.

Development activities could temporarily displace wildlife or preclude wildlife species from using areas of more intense human activity. Surface disturbance impacts could disrupt migratory routes and seasonal ranges, increase general distress, or result in deteriorated physical condition, decreased reproductive success, and nutritional condition due to increased energy expenditure.

It should also be noted that this analysis assumes cumulative impacts to special status wildlife species would be similar in nature to those discussed above for wildlife. However, given their ongoing habitat losses, sensitivity to disturbances, and declining population numbers, special status wildlife species would be expected to be more sensitive to impacts related to development within the CIAA than other, more common wildlife species. Based on these sensitivities, existing and RFD land uses have reduced and would likely continue to reduce the quality and quantity of habitats in the CIAA for special status wildlife species. Field inventories for special status wildlife species are conducted prior to construction, and if seasonal and/or spatial buffers (or avoidance) and other such protective measures are employed in sensitive areas, project-related impacts to special status wildlife species could be reduced. As such, the additive impacts of the Proposed Action with other existing and RFD activities could affect but would not likely cause a trend towards federal listing of the WTPD, spotted bat, bald eagle, golden eagle, ferruginous hawk, greater sage-grouse, short-eared owl, burrowing owl, or sage sparrow.

Similar to special status wildlife discussed above, existing and RFD land uses (including livestock grazing, mineral development, and recreation) have reduced and will likely continue to reduce habitat quality in the CIAA for special status fish species through depletion and sedimentation.

5.2.10 LIVESTOCK GRAZING

The CIAA for livestock grazing is the combined area of the four grazing allotments. Cumulative impacts from oil and gas development to livestock grazing would include the loss of AUMs during the life of the disturbances and disturbance to range facilities. Recreation activities also contribute to cumulative impacts to livestock grazing, but the incremental contribution is impossible to quantify. Table 5.2-1 displays the past, present and reasonably foreseeable development for the livestock grazing CIAA.

Table 5.2-1. AUMs Lost from Existing and Reasonable Developments in the Livestock Grazing CIAA

Allotment Name	Total AUMs in CIAA	AUMs Lost from Project Alternative	Past and Present AUMs[1] Lost	RFD AUMs[1] Lost	Total Reasonably Foreseeable AUMs[2] Lost in CIAA	% of Total AUMs in CIAA
Olsen AMP	9,268	24	77	44	158	1.7
Sand Wash	4,526	24	74	44	118	2.6
Sunday School Canyon	3,667	13	60	35	97	2.6
Sweet Water	8,391	11	75	46	157	1.8
TOTAL for CIAA	**25,852**	**52**	**286**	**169**	**530**	**8.7**

[1] Loss for this calculation were assumed to be allotmentwide

[2] The Reasonable Foreseeable AUMs were calculated by adding the following columns: Past and Present AUMs lost, RFD AUMs lost, and Total AUM's lost from Project Alternative.

These past, present, and future construction activities, and other visual and noise impacts in the CIAA could cause livestock to move to adjacent undisturbed areas, thereby leading to additional livestock impacts on vegetation in those locations. Vegetative recovery, via revegetation efforts, may become increasingly more difficult as grazing animals compete for resources that may become less available due to drought conditions. Successful interim and final reclamation would reduce adverse effects on livestock resources.

5.2.11 RECREATION (INCLUDING TRAVEL MANAGEMENT)

The CIAA for recreation is the Book Cliffs area south of the White River to the Book Cliffs Divide and east of the Green River to the Utah-Colorado state line. Disturbances principally from oil and gas development have reduced the value of the Book Cliffs area for recreationists seeking undeveloped landscapes and remote and primitive recreation opportunities. Improved access from paving the Seep Ridge Road would contribute to these cumulative impacts by lessening the recreational experience for some visitors to the area and causing them to seek remote and primitive recreation opportunities elsewhere.

Improvements to and paving of the Seep Ridge Road would improve access to the Book Cliffs area, enhancing future development of resources in the area, but not necessarily causing such development. The cumulative impact of the reasonable foreseeable development in the Book Cliffs area, including the proposed improvements to the Seep Ridge Road would be to increase the number of roads in the Book

Cliffs area and improve vehicle access to the area. These cumulative improvements would be a long-term benefit to motorized visitors to the Book Cliffs area.

5.2.12 LANDS/ACCESS

The CIAA for lands/access is the Project Area. Potential cumulative lands and access impacts are associated with future natural gas development and recreation in the CIAA. These impacts include increases in industrial traffic and associated user conflicts on segments of Uintah County roads. Improved access to the Book Cliffs area enhances development of the area. As other roads in the area are upgraded and improved to accommodate development and connections are made to the Seep Ridge Road, increasing conflicts would arise involving existing co-located ROWs along these roadways. However, improved and increased road activities in the area would offer greater options for co-located placement of new ROWs, reducing the impacts to other resources and uses in the area from such ROWs. Continued coordination with existing ROW holders prior to any surface disturbance along existing access routes would minimize impacts to these ROWs and ensure their continued function.

6.0 - CONSULTATION AND COORDINATION

The Council on Environmental Quality (CEQ) regulations under NEPA require an "early and open process for determining the scope of issues to be addressed and for identifying significant issues related to a Proposed Action" (40 CFR 1501.7). In order to satisfy this CEQ requirement, the BLM requested input from other agencies and the public to determine the concerns and issues associated with this EA.

6.1 CONSULTATION AND COORDINATION

The persons and agencies coordinated in preparation of this EA are identified in Table 6.1 along with the purpose and authorities for the consultation, and findings/conclusions.

Table 6-1. List of All Persons and Agencies with Whom Coordination Took Place

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
U.S. Fish & Wildlife Service (USFWS)	Section 7 Consultation under the Endangered Species Act (16 USC 1531)	To address depletion issues, on January 21-22, 1988, the Secretary of the Interior; the Governors of Wyoming, Colorado, and Utah; and the Administrator of the Western Area Power Administration were cosigners of a Cooperative Agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River basin (USFWS 1987). In order to further define and clarify the process in the Recovery Program, a Section 7 agreement was implemented on October 15, 1993 by the Recovery Program participants. Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (Plan) which identifies actions currently believed to be required to recover the endangered fishes in the most expeditious manner. Activities and accomplishments under the Recovery Program provide the reasonable and prudent alternatives which avoid the likelihood of jeopardy to the continued existence of the endangered Colorado River fishes and to avoid the likely destruction or adverse modification of critical habitat in Section 7 consultations on all impacts (except the discharge of pollutants such as trace elements, heavy metals, and pesticides) associated with historic water projects in the Upper Basin. Depletion charges or other measures will not be required from historic projects. Additional consultation is not required.

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
Utah State Historical Preservation Office	Section 106 Consultation.	Section 106 consultation with the SHPO is pending and will be finalized prior to the signing of the Decision Record for this EA.
Piney Valley Ranches Trust (Dennis Winn)	Grazing permittee (Olsen AMP Allotment)	Coordination on issues relative to the proposed project and possible mitigation measures.
Alameda Corporation (Neal George Jackson)	Private land owner and grazing permittee (Sand Wash, Sunday School and Sweet Water Allotments)	Coordination on issues relative to the proposed project and possible mitigation measures involved with private lands involved with the proposed project.
The Nature Conservancy (Chris Montague)	Grazing Permittee (Sunday School Allotment).	Coordination on issues relative to the proposed project and possible mitigation measures
Christy DeLambert	Private land owner	Coordination on issues relative to the DeLambert's private land involved with the proposed project
Scott Chamberlain	Range Conservationist, SITLA	Coordination on livestock grazing issues on SITLA lands from proposed improvements to the Seep Ridge Road; coordination on existing rangeland improvements projects located on SITLA lands within the Project Area.

6.2 SUMMARY OF PUBLIC PARTICIPATION

Public participation was initiated with the posting of the proposed project on the BLM's Environmental Notice Bulletin Board (ENBB) on December 1, 2008. A 30-day Public Comment Period is pending.

In accordance with 43 CFR 2807.14, existing ROW holders affected by the Proposed Action were informed of the pending ROW application (refer to Table 3.9-1). A letter, dated March 17, 2009, was sent via certified mail, to each of the holders requesting their comments as to how the Proposed Action would affect the integrity of, or the ability to sustain, existing operations and/or facilities contained in the ROW. To date, XTO Energy has responded in a letter dated April 14, 2009.

6.3 EA PREPARATION AND REVIEW

This EA was prepared by CIVCO Engineering, Inc., and reviewed by the BLM VFO Staff. The preparers and BLM reviewers are provided in Table 6-3.

Table 6-3. List of Reviewers and Preparers of the EA

BLM Reviewers		
Name	**Title**	**EA Responsibilities**
Stephanie Howard	Environmental Coordinator	Air Quality. Socio-Economics, Environmental Justice, Farmlands Wild Horses and Burros, Wastes
Mark Wimmer	Environmental Coordinator	BLM Project Lead, Livestock Grazing, Rangeland Health Standards and Guidelines
Jason R. West	Outdoor Recreation Planner	Special Designations (Areas of Critical Environmental Concern, Wild and Scenic Rivers, Wilderness, Wilderness Study Areas), Recreation, Visual Resource Management
Gabrielle Elliot	Archaeologist	Cultural Resources, Native American Religious Concerns
Dusty Carpenter	Natural Resource Specialist/Wild Horse and Burro Specialist	Livestock and coordination with involved grazing permittees
Mike Cutler	Rangeland Management Specialist	Livestock and coordination with involved grazing permittees
Karl Wright	Natural Resource Specialist	Floodplains, Water Quality, Wetlands/Riparian Zones
Jessie Salix	Botanist	Invasive, Non-native Species, T&E Plant Species, Vegetation, Special Status Plant Species
Brandon McDonald	Wildlife Biologist	T&E Animal Species, Wildlife, Special Status Animal Species
Steven Strong	Natural Resource Specialist	Fuels/Fire Management, Reclamation, Soils
Robin Hansen	Geologist	Geology/Mineral Resources, Paleontology
David Palmer	Forester	Woodland/Forestry
Kyle Smith	GIS Specialist	Cartography and GIS Data Manager
CIVCO Engineering, Inc., Preparers		
Name	**Title**	**EA Responsibilities**
Troy D. Ostler	CIVCO Engineering, Vernal, Utah, Engineer	Project Management
Dave Alvarez	CIVCO Engineering, Vernal, Utah, NEPA Specialist	Overall project coordination
Bret Reynolds	CIVCO Engineering, Vernal, Utah Engineer	Proposed Road Alignment, Typical Drawings
Tanya Johnson	SWCA Consulting, Salt Lake City, UT, Archaeologist	Cultural Resources, Paleontology
Adam Jacobson	Morrison-Maierle, Inc., South Jordan, UT, GIS Specialist	GIS, Spatial Analysis, Cartography
Paul McGuire	Morrison-Maierle, Inc., Missoula, MT,	Wildlife, including Special Status Wildlife Species; Vegetation, including Noxious Weeds and Special Status Plant Species; Soils; Floodplains
Erik Nyquist	Morrison-Maierle, Inc., Bozeman, MT	Wildlife, including Special Status Wildlife Species; Soils, Vegetation, including Noxious Weeds and Special Status Plant Species; Floodplains and

BLM Reviewers		
Name	**Title**	**EA Responsibilities**
		Wetlands; Rangelands
Tish Stultz	The Stultz Group, LLC, Lehi, UT, Economist	Socio-economics
Jean Sinclear	Buys and Associates, Inc., Vernal, UT, NEPA Manager	Project Coordination, Recreation, Visual Resources

7.0 - REFERENCES

Anderson, D.E., O.J. Rongstad, and W.R. Mytton. 1989. Response of Nesting Red-Tailed Hawks to Helicopter Overflights. *The Condor* 91(2):296-299.

Billings, M. 2008. Personal Communication. Uintah County Weed Department, Weed Supervisor. August 18, 2008.

Braun, C.E., M.F. Baker, R.L. Eng, J.S. Gashwiler, and M.H. Schroeder. 1976. "Conservation Committee Report on the Effects of Alteration of Sagebrush Communities on the Associated Avifauna." *Wilson Bulletin* 88: 165-171.

Bureau of Land Management (BLM). 1984. Final Environmental Impact Statement on the Book Cliffs Resource Management Plan. Bureau of Land Management, Vernal Field Office. November 1984.

_____. 1992. BLM Handbook 8400 – Visual Resources Management.

_____. 2002. Mineral Potential Report for Vernal Field Office, Encompassing Approximately 5.1 Million Acres in Duchesne, Daggett, Uintah and Grand Counties, Utah, August 2002.

_____. 2006. Utah BLM NEPA Guidebook.

_____. 2007b. Potential Fossil Yield Classification System. Available on-line at http://www.blm.gov/nhp/efoia/wo/fy08/IM2008-009_att1.pdf.

_____. 2008a. Vernal Field Office Record of Decision and Approved Resource Management Plan. Vernal Field Office, Utah, October 2008.

_____. 2008b. BLM Manual Handbook H-1790-1.

_____. 2008c. Proposed Resource Management Plan and Final Environmental Impact Statement. Bureau of Land Management, Vernal Field Office. August 2008.

_____. 2009. Instruction Memorandum No. GR-2009-002 – "Green River District Reclamation Guidelines for Reclamation Plans". Green River District. January 2009.

Cashion, W. 1973. Geologic and Structure Map of the Grand Junction Quadrangle, Colorado and Utah. scale 1:250,000.

Connelly, J.W., S.T. Knick, M.A. Schroeder, and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. June 2004.

Daitch, D.J., M.H. Imhof, P.C. Murphey. 2008. Paleontological Assessment for the Civco Seep Ridge Road Improvement Project. SWCA Paleontology Report #UT08-14583-27. Bureau of Land Management, Vernal Field Office.

D'Eon, R. G. and R. Serrouya . 2005. Mule deer seasonal movements and multi-scale resource selection using global positioning system radiotelemetry. *Journal of Mammalogy* 86:736–744.

Easterly, T., A. Wood, and T. Litchfield. 1991. Responses of pronghorn and mule deer to petroleum development on crucial winter range in the Rattlesnake Hills. Unpublished Completion Report. Wyoming Game and Fish Department, Cheyenne.

Environmental Protection Agency (EPA). 2003. National Primary and Secondary Drinking Water Standards, EPA 816-F-03-016 June 2003, Accessed online at: http://www.epa.gov/ogwdw/mcl.html#mcls.

Fitzgerald, J.P., C.A. Meaney, and D.M. Armstrong. 1994. Mammals of Colorado. Denver Museum of Natural History and University Press of Colorado. Niwot, CO. 467pp.

Frickel Frickel, D.G., Shown, L.M., and Patton, P.C. 1975. An evaluation of hillslope and channel erosion related to oil shale development in the Piceance Basin, northwestern Colorado; Colorado Water Resources Circular No. 30, Denver, Colorado, Denver Service Center.

Gordon, K.M., K.C. Keffer, and S.H. Anderson. 2003. Impacts of recreational shooting on black-tailed prairie dog behavior, population, and physiology. Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming. Laramie, Wyoming.

Hall, E. Raymond. 1981. The Mammals of North America, Vols. I & II. John Wiley & Sons, New York, New York. 1181p.

Johnson, Tanya. 2009. *Class III Cultural Resource Inventory of the Seep Ridge Road in Uintah County, Utah.* Prepared by SWCA, Inc., Environmental Consultants, Salt Lake City, Utah. SWCA Cultural Res Rept No. 08-399. Submitted to Bureau of land Management. Copies available from Utah State Historic Preservation Office.

Karpowitz, J.F. 1984. Book Cliffs Big Game Inventory and Productivity Study. Utah Division of Wildlife Resources. Publ. 84-10.

Lentsch, L.D., Hoskins, B.G. and Lubomusrov, L.M. 2000. The White River and Endangered Fish Recovery – A Hydrological, Physical and Biological Synopsis Final Report. Prepared for: Recovery Implementation Profram for Endangered Fish Species of the Upper Colorado River.

Lusby, G.C. and Toy, T.J. 1976. An evaluation of surface mine spoils area restoration in Wyoming using rainfall simulation, Earth Services Process, Vol. 1, Denver, Colorado.

Parrish, J.R., F.P. Howe, R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources. UDWR Publication Number 02-27. i-xiv, 302 pp.

Renfrew, R.B., C.A Ribic, J.L. Knack. 2005 Edge avoidance by nesting grassland birds: a futile strategy in a fragmented landscape. *The Auk* 122(2): 618-636.

Rodriguez-Estrella, R., J.A. Donazar, and F. Hiraldo. 1998. Raptors as indicators of environmental change in the scrub habitat of Baja California Sur, Mexico. *Conservation Biology*, Vol 12, No. 4 (August 1998): 921-925.

Sawyer, H., R. Nielson, D. Strickland, and L. McDonald. 2006. 2006 Annual Report. Sublette Mule Deer Study (Phase II): Long-term monitoring plan to assess potential impacts of energy

development on mule deer in the Pinedale Anticline Project Area. Western Ecosystems Technology, Inc. Cheyenne, WY. 101pp + appendices.

Seglund, A.E., A.E. Ernst, M. Grenier, B. Luce, A. Puchniak, and P. Schnurr. 2004. White-tailed Prairie Dog Conservation Assessment.

State of Utah. 2008. Written Communication. Office of the Governor, Public Lands Policy Coordination. September 22, 2008.

Steidl, R.J. and R.G. Anthony. 2000. Experimental effects of human activity on breeding bald eagles. *Ecological Applications*, Vol. 10, No. 1. (February, 2000) pp. 258-268.

Tileston, J.V. and R.R. Lechleitner. 1966. Some Comparisons of the Black-tailed and White-tailed Prairie Dogs in North-central Colorado. *The American Midland Naturalist* 75(2):292-316.

Uintah County. 2007. Uintah County General Plan, as amended. Uintah County, Utah.

Uintah County Road Department. 2005. Traffic Counts on County Roads.

Uintah County Weed Department. 2008. Uintah County Weed Management website. Available at http://www.co.uintah.ut.us/weedctrl/weedid.htm

U.S. Department of Agriculture –Natural Resource Conservation Service (USDA-NRCS). 2007. Soil Properties available at: http://soildatamart.nrcs.usda.gov.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). 2006. Soil Survey Geographic (SSURGO) Database for Uintah Area, Utah – Parts of Daggett, Grand and Uintah Counties.

United States Fish and Wildlife Service (USFWS). 1987. Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin, Final. USDI, Denver, Colorado. September 29, 1987.

_____. 2008. Critical Habitat Portal. Available at: http://criticalhabitat.fws.gov/. Accessed on February 29, 2008.

U.S.Geological Survey (USGS). 2008. Stream Gauging Data. Available at: http://waterdata.usgs.gov/hwis/.

Utah Division of Environmental Quality (UDEQ). 2000. Standards of Quality for Waters of the State, R317-2, Utah Administrative Code.

Utah Division of Water Rights. 2009. Water Rights Database. Available at: http://www.waterrights.utah.gov/cblapps/wrprint.exe?wrnum=41-3523. Accessed 03/30/2009.

Utah Division of Wildlife Resources (UDWR). 2002. Strategic Management Plan for Sage Grouse. Publication 02-20. June 11, 2002.

_____. 2007a. Utah Big Game Annual Report – 2006. Prepared by Kent R. Hersey and Anis Aoude. Publication No. 07-22. Salt Lake City, Utah, pp. 178.

_____. 2007b. Utah Black Bear Annual Report – 2006. Prepared by Kent R. Hersey and Kevin Bunnell. Publication No. 07-21. Salt lake City, Utah. Page 10.

_____. 2008a. Utah Big Game Annual Report 2008 (in preparation). Annual Performance Report for Federal Aid Project W-65-M.

_____ 2008b. UDWR working data for white-tailed prairie dog (Unpublished data).

_____ 2008c. UDWR working data for greater sage-grouse. (Unpublished data).

_____ 2008d. Burrowing Owl (*Athene cunicularia*). Wildlife Notebook Series No. 11.

_____ 2008e. Utah Conservation Data Center. Burrowing Owl. http://dwrcdc.nr.utah.gov/rsgis2/ Search/ Display.asp?FlNm= thecuni.

_____ 2008f. Utah Cougar Annual Report – 2006 and 2007. Prepared by Kent R. Hersey and Kevin Bunnell. Publication No. 08-35. Salt Lake City, Utah. Page 13.

_____. 2009a. Wildlife News. Press Release – "Dreams Come True – Bison Released in the Book Cliffs. February 5, 2009.

_____. 2009b. Internal working correspondence to BLM on UDWR's initial comments on the working EA document. Dated April 13, 2009.

Utah Division of Wildlife Resources – Utah Natural Heritage Program (UDWR-UNHP). 2007. Utah Sensitive Species List. Last updated December 14, 2007.

_____.2008. Utah Conservation Data Center. Availabale at: http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=ursearct.

Williams, B. 2008. Personal Communication. Utah Division of Wildlife Resources, Energy Biologist. August 18, 2008.

Appendix A

BLM Interdisciplinary Team Analysis Record Checklist
INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST

Project Title: Paving of Seep Ridge Road

NEPA Log Number: UT-080-08-0238

File/Serial Number: UTU 69125-35

Project Leader: Mark Wimmer

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis
NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section C of the DNA form.

Determi-nation	Resource	Rationale for Determination*	Signature	Date
PI	**Air Quality**	Fugitive dust would likely be reduced along the paved areas.	Mark Wimmer	04/07/09
NP	Areas of Critical Environmental Concern	None Present as per Vernal RMP	Jason R. West	05/19/2008
NP	BLM natural areas	None present, as per Vernal RMP GIS data	Mark Wimmer	4/30/09
PI	**Cultural Resources**	Based on previous inventories, there is a wide variety of historic and prehistoric sites along the road.	Blaine Phillips	5/19/08
NI	Environmental Justice	No minority or economically disadvantaged populations would be disproportionately adversely affected by the proposed paving	Stephanie Howard	5/19/08
NP	Farmlands (Prime or Unique)	All prime or unique farm lands in the Uintah County must be irrigated to be considered under this designation, among other factors. No irrigated lands are located in the proposed action area; therefore this resource will not be carried forward for analysis.	MarkWimmer	04/07/09
PI	**Floodplains**	Crosses and parallels about 1.5 miles of Cottonwood Wash floodplain. Could be easily mitigated.	Karl Wright	5/19/08
NI	Fuels / Fire Management	No expected increases in unplanned starts, no projects underway on corridor.	Steve Strong	5/21/08
NI	Geology / Mineral Resources/Energy Resources	Uinta formation through Green River formation. Will not preclude oil/gas or other mineral extraction.	Robin Hansen	5/19/08
PI	**Invasive Plants / Noxious Weeds**	Road construction is a common carrier for invasive weeds through the creation of disturbance and unclean equipment. By paving the Seep Ridge Road, more access would be provided to recreationists who could also bring in new weed species and encourage the spread of existing weeds.	Jessie Salix	5/19/08

Determi-nation	Resource	Rationale for Determination*	Signature	Date
PI	**Lands / Access**	Pipelines paralleling and crossing the road will have to be taken into account. Uintah County would need to coordinate with the existing R/W holders during the implementation of the proposed action. BLM will notify all affected right-of-way holders of the proposal and provide Uintah County a list of affected right-of-way holders.	Naomi Hatch Cindy McKee	5/19/08 3-10-08
PI	**Livestock Grazing**	Coordination with grazing permittees is needed to properly locate cattle guards at allotment boundaries, pastures, etc…A survey of range improvements (ponds, corrals, fences) shows that re-location of these improvements will be necessary.	Mark Wimmer	05/19/08
NI	Native American Religious Concerns	No known sites are near enough the road to be impacted directly or indirectly.	Blaine Phillips	5/19/08
PI	**Paleontology**	Six segments of the proposed project will require paleontological monitoring totaling 6.4 miles as reported in the survey dated 8-26-2008. (UT08-14583.27)	Robin Hansen	5/19/08
NI	Rangeland Health Standards and Guidelines	This area has not been assessed for land health standards. It is not anticipated, however, that the proposed action would prevent standards from being met due to design features found in the proposed action.	Mark Wimmer	04/14/09
PI	**Recreation**	Access issues for dispersed camping. Impacts to OHV, designated sites, and planned sites. Paving plans and proximity to Recreation facilities. Part of the Book Cliffs-Bitter Creek Hunting unit. Can be mitigated.	Jason West	5/19/08
NI	Socio-economics	Due to the existence of the road, no social or economic impacts are expected to occur that would be felt on in surrounding communities. Law enforcement is already ongoing in the area, and the road is currently heavily used.	Stephanie Howard	5/19/08
PI	**Soils**	Slight increase in sediment during construction phase	Steve Strong	5/21/08
PI	**Special Status Animal Species Other than USFWS Candidate or Listed Species e.g. Migratory Birds**	Two Sage-grouse leks adjacent to the Project Area near Monument Ridge. Potential White-tailed Prairie dog and Burrowing owl habitat north-end of Project Area. Raptors and migratory birds in general. BLM & UDWR designated crucial deer fawning and elk calving habitat, crucial deer and elk winter range, and Monument Ridge deer migration corridor.	Brandon McDonald	05/19/2008
PI	**Special Status Plant Species Other than USFWS Candidate or Listed Species**	Penstemon grahamii occurs in several locations along the Seep Ridge Road and would likely be adversely impacted. Surveys will be necessary for the area between Buck Canyon and Sunday School Canyon. Vegetation would be disturbed in the construction of the new road.	Jessie Salix	5/19/08
PI	**Threatened, Endangered or Candidate Animal Species**	Habitat not present within Project Area. The water used for this project would be obtained from the state water rights permit 41-3523, which are considered to be historic depletions. The U.S. Fish and Wildlife Service (USFWS) addresses new and historic depletions differently under the Section 7 agreement of March 11, 1993. Historic depletions (permitted prior to January 1988), regardless of size, do not pay a depletion fee to the Recovery Program. Also, consultation for historic depletions was conducted in association with that 1993 agreement. New depletions over 100 acre-feet per year result in a fee	Brandon McDonald	05/19/2008
PI	**Threatened, Endangered or Candidate Plant Species**	Schoenocrambe argillacea occur in areas adjacent to the current Seep Ridge Road. Surveys should be conducted.	Jessie Salix	5/19/08

Determi-nation	Resource	Rationale for Determination*	Signature	Date
PI	**Vegetation**	Vegetation would be removed as part of the Proposed Action	Mark Wimmer	4/30/09
NI?	Visual Resources	VRM I near south canyon road. If the project extends to the Divide road, where south canyon road intersects with Seep Ridge, it would be a PI. If the project proposal does not go that far south, VRM would be NI.	Jason West	5/19/08
NI	Wastes (hazardous or solid)	*Hazardous Waste:* No chemicals subject to reporting under SARA Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with this project. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with this project *Solid Wastes:* Trash would be confined in a covered container and hauled to an approved landfill. Burning of waste or oil would not be done. Human waste would be contained and be disposed of at an approved sewage treatment facility.	Stephanie Howard	5/19/08
PI	**Water Quality (surface / ground)**	Potential impacts due to increased amounts of water coming off the road. It can be mitigated, at which point it would become an NI. Will need some good engineering to figure out quantities coming off the road and how it will be dispersed.	Karl Wright	5/19/08
PI	**Waters of the U.S.**	Seep Ridge Road improvements may require culvert extensions at surface water crossings. This work will likely qualify for USACE Nationwide General Permit #14 (minor road crossings). Due to the arid environment and flashy runoff events, the USACE recommends that surface water crossings be designed to withstand 100-year flow events (as opposed to BLM Gold Book design criteria for 25-year event)	Sue Nall	10/17/08
NP	Wetlands / Riparian Zones	No wetlands or riparian areas are present. As per….	Karl Wright	5/19/08
NP	Wild and Scenic Rivers	None Present as Per Book Cliffs RMP	Jason West	05/19/2008
NI	Wild Horses and Burros	No herd areas or herd management areas are present.	Stephanie Howard	5/19/08
NP	Wilderness	None Present as per Book Cliffs RMP and East of the eastern border of the Winter Ridge WSA	Jason West	05/19/2008
PI	**Woodland / Forestry**	The removal of woodland vegetation for road realignment has the potential to impact woodland resources. The BC RMP direction is to encourage utilization of woodland products from lands that would be converted to other resource uses. The removal of pinyon and juniper trees to create a new road right of way would constitute a conversion to another resource use. A reasonable attempt should be made to utilize any woodland products that would be removed to create new road alignments associated with the Seep Ridge Road Project.	David Palmer	5/19/2008

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator			
Authorized Officer			

Follow the italicized instructions below and then delete the asterisks"" in the checklist, this sentence, and the instructions.*

**Rationale for Determination is required for all "NIs" and "NPs." Write issue statements for "PIs"*

Appendix B

Engineer's Typical Drawings

Appendix C

Reclamation Plan
And
Weed Control Plan

Reclamation Plan for Uintah County's Seep Ridge Road Paving Project

As a result of the proposed Seep Ridge Road Paving Project (Project Area), the Proposed Action will include the disturbance of approximately 722 acres of land within the Project Area. In addition to the newly disturbed areas, portions of the existing roadway will be abandoned (predominantly in areas where curve realignments will be implemented) and will require reclamation. This Reclamation Plan was developed in accordance with the *Green River District Reclamation Guidelines for Reclamation Plans* (BLM 2009) and outlines measures that will be implemented to reclaim disturbed areas resulting from the proposed road reconstruction project.

The objectives of this Reclamation Plan are to re-establish vegetation, reduce dust and erosion, compliment the visual resources of the surrounding area, and generally minimize impacts to the environment. Reclamation will be completed on all surface lands within the Project Area not physically covered by the final paved road except for an approximately 10-foot-wide strip located adjacent to both sides of the proposed roadway that will remain devoid of vegetation.

Reclamation and best management practices will be implemented during and after construction activities to minimize impacts on the environment to the greatest extent practicable. Reclamation methodologies to be implemented during and after construction are described in the following sections. In addition, monitoring will be implemented to ensure that reclamation techniques are successful and the monitoring protocol is also described below.

Construction

Surface Disturbance:
All surface disturbance will be kept to a minimum (i.e., road design that has been developed for the Proposed Action predominantly follows the existing Seep Ridge Road alignment).

Noxious Weeds:
Prior to surface disturbance, a weed inventory of areas proposed for disturbance will be completed.

To reduce the spread/introduction of noxious and invasive weed species via project-related vehicles and equipment, the selected contractors will power-wash all construction equipment and vehicles entering the Project Area from outside the Uinta Basin.

Fugitive Dust Control:
The selected contractor will use water or other approved dust suppressants in the Project Area during construction activities, as necessary, to abate fugitive dust.

Topsoil and Surface Preparations:
At all construction sites, topsoil will be segregated from the subsoil (without mixing them), stockpiled separately from other soil materials, and maintained for future use in rehabilitating the locations.

After road construction is complete, salvaged topsoil will be re-distributed evenly over disturbed surfaces.

Topsoil piles stored beyond one growing season will be stabilized and seeded to prevent erosion.

Topsoil storage areas will be identified with appropriate signage.

Post-Construction

Topsoil and Final Surface Preparations:
Following completion of road construction activities, all disturbed areas will be re-contoured back to the original contour or a contour that corresponds with the surrounding landform (i.e., areas where the existing Seep Ridge Road will be abandoned and lateral access roads impacted must also be reclaimed). Abandoned segments of the existing Seep Ridge Road would be barricaded to prevent unauthorized vehicle travel on the reclaimed areas. Barricades may include fencing and/or boulders of sufficient size to prevent vehicles from traveling on these closed and reclaimed road segments.

Salvaged topsoil will be re-distributed evenly and to pre-disturbance depths over the surfaces to be revegetated.

The soil surface will be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching, or soil additives. The seedbed preparations will be determined by the appropriate surface managing agency (SMA) at the time of final reclamation.

Outside of the roadway embankment, soil compaction will be reduced to the anticipated root depth of the desired plant species (usually 18 to 24 inches in a cross hatch manner where practicable). Discing may be necessary to eliminate large soil clumps or clods.

Methods such as hydromulching, straw mat application on steeper slopes, soil analysis to determine the need for fertilizer, seed-bed preparation, contour furrowing, watering, terracing, water barring, and the replacement of topsoil will be implemented as directed by the SMA. If fertilization is determined to be necessary, fertilizer containing nitrogen will not be used in areas maintaining a high density of cheatgrass (*Bromus tectorum*).

Final Revegetation:
After road construction is complete, all disturbed areas and abandoned areas of the existing Seep Ridge Road will be reseeded. The seed mixtures to be used will be similar to the vegetation of the surrounding areas and may consist of grasses, forbs, or shrubs. Three recommended seed mixtures are provided in Tables 1, 2, and 3. The seed mixture in Table 1 will be used in the Wyoming big sagebrush vegetative communities; the seed mixture in Table 2 will be used in the mixed desert shrub vegetative communities; and the seed mixture in Table 3 will be used in the pinyon-juniper and montane brush/woodland vegetative communities.

The seeding contractor will provide all seed tags to the BLM-authorized officer or appropriate SMA prior to seeding efforts.

Private and state lands will be seeded with a similar seed mixture, unless the landowner requests a different seed mixture.

Seeding will occur after August 15 and prior to winter freezing of the soil.

Drill seeding will be used except in areas where topography or substrate composition (rock) precludes the use of the drill. If drill seeding is not possible, broadcast seeding will be implemented. If the broadcast method is used (such as on slopes of 40 percent or greater), the seed rates established for drill seeding will be doubled and seed will be immediately covered to prevent seed desiccation or predation by birds or rodents. The seeds could be covered in several ways including spreading and crimping straw over the seeded area, raking the area by hand, or dragging a chain or chain-linked fence over the seeded area.

Starting prior to reclamation actions, the selected contractor will annually inspect the Project Area to identify, treat, and control noxious weed infestations. Any herbicide application on BLM lands will be applied in accordance with the BLM-approved Pesticide Use Proposal (PUP). A list of noxious weeds will be obtained from the BLM or the appropriate county Extension Office.

Monitoring

Revegetation

Prior to any surface disturbance, vegetative monitoring locations and reference sites will be identified by the Contractor and approved by the BLM Reclamation Specialist.

Vegetative monitoring protocol will be developed by the Contractor and approved by the BLM Reclamation Specialist prior to implementation of revegetation techniques.

The process of monitoring, evaluating, documenting/reporting, and implementing will be repeated until reclamation goals are achieved, as determined by the appropriate Authorized Officer.

Revegetated areas will be annually inspected and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation (for a period of 3 years after construction completion).

On BLM lands, monitoring methodology will be designed to monitor basal vegetative cover.

A reclamation report will be submitted to the Authorized Officer by March 31 of each year.

On federal lands, the reclamation objective will be a vegetation community that within 5 years is comprised of desired and/or seeded species, and where the basal vegetative cover is 75 percent of a similar undisturbed adjacent native vegetation community. If after 3 years basal cover is less than 30 percent, then additional seeding and reclamation efforts may be required.

Table 1. Wyoming Big Sagebrush Vegetation Community Seed Mixture

Common Name	**Scientific Name**	**Rate** [1,2]
GRASSES		
Crested wheatgrass	*Agropyron cristatum* 'Hycrest'[3]	1.0 lbs/acre
Bottlebrush squirreltail	*Elymus elymoides*	1.0 lbs/acre
Sand dropseed	*Sporobolus cryptandrus*	1.0 lbs/acre
Western wheatgrass	*Pascopyrum smithii*	1.0 lbs/acre
Needle and threadgrass	*Stipa comata*	1.0 lbs/acre
FORBS		
Globemallow	*Sphaeralcea parvifolia*	1.0 lbs/acre
Yellow beeplant	*Cleome lutea*	0.5 lbs/acre
Shaggy fleabane	*Erigeron pumilus*	0.5 lbs/acre
Hoary aster	*Machaeranthera canescens*	0.5 lbs/acre

Table 1. Wyoming Big Sagebrush Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
SHRUBS		
Wyoming sagebrush[4]	*Artemesia tridentate v. wyomingensis*	2.0 lbs/acre
Shadscale	*Atriplex confertifolia*	2.0 lbs/acre
Fourwing saltbush	*Atriplex canescens*	0.5 lbs/acre
	Pure Live Seed Total	**12.0 lbs/acre**

[1] Rate numbers are in Pure Live Seed (PLS).
[2] Seed rates are specific to the drill seeder method. If broadcasting is used to disperse the seed, the seed rates above should be doubled.
[3] The Hycrest variety will be used, or a more drought-tolerant variety.
[4] This species will be broadcast on the surface and left uncovered after the other seed is either drill-seeded or broadcast and covered. It is important to keep seeds of this species uncovered.

Table 2. Mixed Desert Shrub Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
GRASSES		
Crested wheatgrass	*Agropyron cristatum* 'Ephraim'[3]	1.0 lbs/acre
Bottlebrush squirreltail	*Elymus elymoides*	1.0 lbs/acre
Western wheatgrass	*Pascopyrum smithii*	2.0 lbs/acre
FORBS		
Scarlett globemallow	*Sphaeralcea coccinea*	1.0 lbs/acre
SHRUBS		
Shadscale	*Atriplex confertifolia*	2.0 lbs/acre
Fourwing saltbush	*Atriplex canescens*	3.0 lbs/acre
Pure Live Seed Total		**10.0 lbs/acre**

[1] Rate numbers are in Pure Live Seed (PLS).
[2] Seed rates are specific to the drill seeder method. If broadcasting is used to disperse the seed, the seed rates above should be doubled.
[3] The Ephraim variety will be used.

Table 3. Pinyon-Juniper and Montane Brush/Woodland Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
GRASSES		
Crested wheatgrass	*Agropyron cristatum* 'Hycrest'[3]	1.5 lbs/acre
Bottlebrush squirreltail	*Elymus elymoides*	1.5 lbs/acre
Western wheatgrass	*Pascopyrum smithii*	1.0 lbs/acre
Needle and threadgrass	*Stipa comata*	1.0 lbs/acre
FORBS		
Globemallow	*Sphaeralcea parvifolia*	0.5 lbs/acre
Evening primrose	*Oenethera caespitosa*	0.5 lbs/acre
Shaggy fleabane	*Erigeron pumilus*	0.5 lbs/acre

Table 3. Pinyon-Juniper and Montane Brush/Woodland Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
Hoary aster	*Machaeranthera canescens*	0.5 lbs/acre
SHRUBS		
Wyoming sagebrush[4]	*Artemesia tridentate v. wyomingensis*	2.0 lbs/acre
Black sagebrush[4]	*Artemisia nova*	1.0 lbs/acre
Pure Live Seed Total		**10.0 lbs/acre**

[1] Rate numbers are in Pure Live Seed (PLS).
[2] Seed rates are specific to the drill seeder method. If broadcasting is used to disperse the seed, the seed rates above should be doubled.
[3] The Hycrest variety will be used, or a more drought-tolerant variety.
[4] This species will be broadcast on the surface and left uncovered after the other seed is either drill seeded or broadcast and covered. It is important to keep seeds of this species uncovered.

References Cited

Bureau of Land Management (BLM). 2009. Green River District reclamation Guidelines for Reclamation Plans. Instruction Memorandum GR-2009-002. January 2009.

Weed Control Plan for Uintah County's Seep Ridge Road Paving Project

This Weed Control Plan outlines measures that will be implemented to effectively control noxious and invasive weed species within the Seep Ridge Road Paving Project (Project Area). The objective of this Weed Control Plan is to outline the methodology to be implemented concurrently with the Reclamation Plan to control noxious and invasive weed species in the Project Area. The following measures are required for all surface disturbance activities on BLM lands.

- Prior to surface disturbance, a weed inventory of areas proposed for disturbance will be completed.
- If noxious weeds are found, a report including: 1) location of weeds (GPS if possible); 2) species located; 3) cover percent or number of plants; 4) and size of infestation (estimate of square feet or acres) shall be provided to the BLM Weed Coordinator prior to disturbance occurring. Information can be recorded on a data sheet or by GPS using a data dictionary.
- To reduce the spread/introduction of noxious and invasive weed species via project-related vehicles and equipment, the selected contractors will power-wash all construction equipment and vehicles entering the Project Area from outside the Uinta Basin.
- Starting prior to reclamation actions, the selected contractor will annually inspect the Project Area to identify, treat, and control any noxious weed infestations. Any herbicide application on BLM lands will be applied in accordance with the BLM-approved Pesticide Use Proposal (PUP). All pesticide applications will be recorded on a Pesticide Application Record form within 24 hours of application. Pesticide Application Records and an annual report will be provided to the BLM Weed Coordinator by December 1 each year for all weed treatments occurring within BLM's fiscal year (October 1 –September 30).
- A Biological Control Agent Release Proposal and corresponding site-specific review, including additional NEPA compliance as appropriate, would be prepared and approved prior to releasing a biological control agent on BLM lands.
- An integrated weed management (IWM) plan utilizing chemical, mechanical, and biological control of noxious and invasive weed species will be implemented.
- Use certified noxious weed-free seed and mulch in all reclamation areas.
- Monitoring of the noxious/invasive plant species will also be implemented on an annual basis to ensure control efforts are effectively controlling target populations.
- Only BLM approved pesticides and adjuvants shall be used on BLM lands.

The following measures for surface disturbance activities are recommended for implementation of the road reconstruction project on BLM lands.

- Travel through weed infested areas shall be avoided or minimized to the greatest extent practicable.
- Sand, gravel, borrow, and fill material utilized for the road reconstruction project will be from noxious weed-free sources to prevent the introduction and spread of weeds.
- Staging areas for construction activities and construction equipment will be located in weed-free sites.

- The project area and stockpiled material will be maintained in a weed-free condition to prevent weed seed production. These include but are not limited to cut-fill slopes, topsoil reserves, roadsides, etc.
- Implement Early Detection and Rapid Response (EDRR) by reporting all new noxious weed infestations on BLM lands to the BLM Weed Coordinator and controlling new weed infestations when found and before seed set if possible.

Control and Management

The following measures are required for all surface disturbance activities on BLM lands.

- All herbicide treatments shall be applied by a Utah licensed Pesticide Applicator. If licensed in another state, a reciprocal license may be obtained through the Utah Department of Agriculture website.
- Control weeds within the disturbance areas, including borrow areas along roads. Reseed if feasible to promote competition with weeds.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of the project or until desirable vegetation is established. If weeds are located during the monitoring period, they will be treated.
- Mechanical dragging (before seed set), manual control, and biological control will be considered before implementing the use of chemical treatments to control weeds.

Chemical Control
Noxious and invasive weed species identified during the pre-construction weed inventory will be spot- or broadcast-sprayed with appropriate herbicides (according to BLM-approved PUP) during the first spring following commencement of construction activities, and again in the mid-summer. Chemical weed control will occur twice each year (spring and mid-summer) until BLM has determined that noxious and invasive weed infestations have been adequately controlled (three growing seasons after construction completion). After BLM has determined weed infestations have been controlled, the county will complete routine maintenance of the right-of-way (ROW) (including weed control) as required by the BLM ROW easement. Chemical control will commence simultaneously with road construction activities. Noxious and invasive species that are identified within or adjacent to the ephemeral drainages associated with the proposed roadway will be sprayed only with herbicides approved for use in riparian areas.

Mechanical Control
Prior to surface disturbance, noxious and invasive weed species identified during the pre-construction weed inventory that are located near ephemeral drainages or near known sensitive plant species locations and habitat (e.g., Graham beardtongue) will be mowed, and/or removed by hand/shovel. Mechanical control methods will be implemented concurrently with chemical treatment in the spring.

Biological Control
If BLM determines that biological control of weed species is appropriate for IWM, the following species could be utilized in accordance with BLM's Biological Control Agent Release guidelines. Field bindweed (*Convulvulus arvensis*) was identified along the existing roadway during initial biological investigations that were completed for preparation of the Environmental Assessment document. Field bindweed gall mites (*Aceria malherbae*) have proven effective as biological control of this species and may be utilized to reduce infestations of this species within the project area. If musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), or bull thistle (*Cirsium vulgare*) are identified, the musk thistle crown weevil (*Trichosirocalus horridus*) could be utilized to help control these species.

Standard Stipulations

- Spraying or application of herbicides/pesticides will not be completed when wind speeds exceed 10 miles per hour or if heavy rainfall or other adverse weather conditions exist.
- No herbicide/pesticide application will occur within the following distances of open water, such as springs, wetlands, streams, ponds, or lakes, unless otherwise specified on the herbicide/pesticide label:
    - 100 feet aerial application
    - 25 feet boom truck application
    - 10 feet backpack sprayer application
- Herbicide/pesticide applications within 1,500 feet of special status plants/populations will need to be coordinated with the BLM Weed Coordinator. Additional measures may be incorporated into application plans for control around special status plants/populations.
- All herbicide/pesticide applications will be in strict conformity with the label instructions.
- All commercial and private applicators of herbicides/pesticides will be currently licensed or hold reciprocal license with the State of Utah.
- Empty containers shall be disposed of in accordance with label instructions.
- Equipment shall not be washed or cleaned out near streams or open water.
- Herbicides/pesticides shall only be transported when properly secured and with containers properly sealed and labeled.

Invasive Plants To Be Controlled

- All federal listed noxious weeds (not currently in VFO).
- All state-listed noxious weeds.
- All neighboring stated-listed weeds as part of EDRR.
- All county-listed noxious weeds within the entire State of Utah.
- Other invasive plants deemed important for control by BLM, due to high risk of invasion and impacts to adjacent undisturbed vegetation areas. Currently halogeton (*Halogeton glomeratus*), Russian thistle (*Salsola kali*), and kochia (*Bassia prostrata*) are additional weeds needing control.

Appendix D

Project Area Soils Data

Map Unit	Soil Complex Name	Acreage in Project Area	Soil Unit Name	Soil Type	Parent Material	Percent of Soil Complex (%)	Slope (%)	pH Range	Max. Salinity (mmhos/cm)	Drainage Class	Clay Content (%)	Hydrologic Group	Sodium Adsorption Ratio (SAR)	Runoff Class	Erosion Potential (Kw)
21	Bigpack loam	8	Bigpack	Loam, clay loam	Alluvium derived from sandstone, limestone, shale, and quartzite	85	1-8	7.9-9.0	2.0	Well drained	18-35	B	0	Medium	0.28-0.37
29	Bullpen parachannery loam	34	Bullpen	Parachannery loam, parachannery clay loam, weathered bedrock	Slope alluvium over residuum derived from shale and sandstone	85	2- 25	7.9-11.0	4.0	Well drained	18-30	B	0-25	Medium	0.15-0.37
31	Bullpen-Mikim complex	62	Bullpen	Parachannery loam, parachannery clay loam, weathered bedroock	Slope alluvium over residuum derived from shale and sandstone	55	2 -25	7.9-11.0	4.0	Well drained	18-30	B	0-25	Medium	0.15-0.37
			Mikim	Silt loam, loam, clay loam	Alluvium derived from sandstone, limestone and shale	30	2-4	7.9-9.0	2.0	Well drained	20-35	B	0-10	Low	0.32-0.55
36	Cadrina extremely stony loam – Rock outcrop complex	<1	Cadrina	Extr. stony loam, unweathered bedrock	Slope alluvium and colluviums over residuum derived from shale and sandstone	65	25-50	7.9-9.0	4.0	Well drained	18-27	D	0-5	Very high	0.05
			Rock outcrop	Bedrock	--	20	25-50	--	--	--	--	D	--	Very high	--
39	Cadrina-Rock outcrop complex	8	Cadrina	Extr. flaggy loam, extr. channery silt loam, unweathered bedrock	Slope alluvium and colluvium over residuum derived from shale and sandstone	70	25-50	7.9-9.0	4.0	Well drained	18-27	D	0-5	Very high	0.05

Map Unit	Soil Complex Name	Acreage in Project Area	Soil Unit Name	Soil Type	Parent Material	Percent of Soil Complex (%)	Slope (%)	pH Range	Max. Salinity (mmhos/cm)	Drainage Class	Clay Content (%)	Hydrologic Group	Sodium Adsorption Ratio (SAR)	Runoff Class	Erosion Potential (Kw)
			Rock outcrop	Bedrock	--	15	25-50	--	--	--	--	D	--	Very high	0.05
42	Casmos-Cadrina-Badland complex	5	Casmos	V. channery loam, channery loam, unweathered bedrock	Slope alluvium over residuum derived from sandstone, siltstone, and shale	35	4-25	7.9-9.0	4.0	Well drained	18-27	D	5-10	Very high	0.15-0.24
			Cadrina	Extr. channery loam, unweathered bedrock	Slope alluvium over residuum derived from shale and sandstone	30	4-25	7.9-9.0	4.0	Well drained	18-27	D	0-5	Very high	0.05
			Badland	Clay, silty clay, weathered bedrock	--	20	4-25	7.9-11.0	20.0	Somewhat excessively drained	40-60	D	1-10	Very high	0.10
78	Gilston sandy loam	44	Gilston	Sandy loam, gravelly sandy loam, gypsiferous loam	Alluvium derived from sandstone	85	2-8	7.9-11.0	16.0	Well drained	5-18	B	0 -55	Low	0.15-0.43
81	Gompers very channery silt loam	43	Gompers	V. channery silt loam, v. channery loam, extr. channery loam, unweathered bedrock	Slope alluvium over residuum derived from shale	85	4-25	7.9-9.0	2.0	Well drained	8-25	D	0-10	Very High	0.05-0.15
119	Jagon-Rock outcrop complex	82	Jagon	V. gravelly loam, v. gravelly clay loam, v. channery loam, v. channery clay loam unweathered bedrock, bedrock	Eolian deposits and slope alluvium derived from sandstone	75	3-8	7.4-8.4	2.0	Well drained	18-35	D	0	High	0.05-0.15
			Rock outcrop	Bedrock	--	10	3-8	--	--	--	--	D	--	Very high	--
126	Lanver-Walknolls association	53	Lanver	V. channery sandy loam, gravelly sandy loam, v. channery sandy loam	Eolian deposits over residuum derived from sandstone and shale	50	2-8	7.9-11.0	8.0	Well drained	8-18	C	0-30	Medium	0.10-0.15

Map Unit	Soil Complex Name	Acreage in Project Area	Soil Unit Name	Soil Type	Parent Material	Percent of Soil Complex (%)	Slope (%)	pH Range	Max. Salinity (mmhos/cm)	Drainage Class	Clay Content (%)	Hydrologic Group	Sodium Adsorption Ratio (SAR)	Runoff Class	Erosion Potential (Kw)
			Walknolls	V. channery sandy loam	Slope alluvium derived from sandstone	35	2-25	7.9-9.0	2.0	Well drained	8-18	D	0-10	Medium	0.10-0.15
138	Mikim silt loam	2	Mikim	Silt loam, clay loam, loam	Alluvium derived from sandstone, limestone, and shale	85	2-4	7.9-9.0	2.0	Well drained	20-35	B	0-10	Low	0.32-0.55
151	Moonset-Whetrock association	13	Moonset	Channery loam, extr. channery loam, unweathered bedrock	Slope alluvium and colluvium derived from sandstone and shale	45	8-50	7.9-8.4	2.0	Well drained	18-27	D	0	Very high	0.05-0.15
			Whetrock	V. channery loam, extr. channery loam, weathered bedrock	Slope alluvium and colluviums over residuum derived from sandstone and shale	45	8-50	7.9-9.0	2.0	Well drained	18-27	C	0-5	High	0.05
154	Motto-Rock outcrop complex	98	Motto	V. flaggy loam, clay loam, extr. channery clay loam, unweathered bedrock	Slope alluvium over residuum derived from shale and sandstone	75	2-25	7.9-11.0	8.0	Well drained	16-35	D	10-60	Very high	0.05-0.28
			Rock outcrop	Bedrock	--	10	2-25	--	--	--	--	D	--	Very high	--
173	Pariette gravelly sandy loam	3	Periette	Gravelly sandy loam, cobbly loam, gravelly loam, weathered bedrock	Slope alluvium over residuum derived from shale interbedded with sandstone and siltstone	85	2-8	7.9-11.0	2.0	Well drained	10-27	C	1-15	Medium	0.15-0.24

Map Unit	Soil Complex Name	Acreage in Project Area	Soil Unit Name	Soil Type	Parent Material	Percent of Soil Complex (%)	Slope (%)	pH Range	Max. Salinity (mmhos/cm)	Drainage Class	Clay Content (%)	Hydrologic Group	Sodium Adsorption Ratio (SAR)	Runoff Class	Erosion Potential (Kw)
201	Seeprid-Utso complex	59	Seeprid	Loam, clay loam, v. channery clay, v. channery loam, extr.channery loam, extr. channery sandy loam, unweathered bedrock	Eolian deposits over residuum derived from sandstone and shale	45	4-25	6.6-8.4	2.0	Well drained	5-50	B	0	Very high	0.05-0.20
			Utso	Loam, channery loam, v. channery loam, extr. channery loam, unweathered bedrock	Eolian deposits and slope alluvium over residuum derived from shale and sandstone	40	4-25	6.6-8.4	2.0	Well drained	18-27	B	0	Medium	0.05-0.20
228	Tabyago-Cedarknoll association	5	Tabyago	Loam, v. channery loam, v. channery sandy loam, unweathered bedrock	Eolian deposits over residuum derived from sandstone and shale	50	2-4	7.9-9.0	2.0	Well drained	8-25	C	0-10	Low	0.10-0.28
			Cedarknoll	Channery loam, v. channery loam, unweathered bedrock	Eolian deposits over residuum derived from siltstone and sandstone	45	2-8	7.9-9.0	2.0	Well drained	18-27	D	0-13	High	0.15
232	Tosca gravelly sandy loam	1	Tosca	Slightly decomposed plant material, gravelly sandy loam, v. cobbly sandy loam, v. gravelly sandy loam, extr. stony sandy loam, unweathered bedrock	Slope alluvium derived from sandstone and shale	90	25-40	5.1-9.0	2.0	Well drained	8-18	B	0-5	Medium	0.05-0.15
256	Walknolls extremely channery sandy loam	39	Walknolls	Extr. channery sandy loam, v. channery sandy loam, unweathered bedrock	Slope alluvium derived from sandstone	85	4-25	7.9-9.0	2.0	Well drained	8-18	D	0-10	Medium	0.05-0.15

Map Unit	Soil Complex Name	Acreage in Project Area	Soil Unit Name	Soil Type	Parent Material	Percent of Soil Complex (%)	Slope (%)	pH Range	Max. Salinity (mmhos/cm)	Drainage Class	Clay Content (%)	Hydrologic Group	Sodium Adsorption Ratio (SAR)	Runoff Class	Erosion Potential (Kw)
257	Walknolls extremely channery sandy loam-Gilston association	28	Walknolls	Extr. channery sandy loam, v. channery sandy loam, unweathered bedrock	Slope alluvium and colluvium derived from sandstone	50	4-50	7.9-9.0	2.0	Well drained	8-18	D	0-10	High	0.05-0.15
			Gilston	Sandy loam, gravelly sandy loam, gypsiferous loam	Alluvium derived from sandstone	35	2-8	7.9-11.0	16.0	Well drained	5-18	B	0-55	Low	0.15-0.43
259	Walknolls-Badland-Rock outcrop complex	29	Walknolls	Extr. channery sandy loam, v. channery sandy loam	Slope alluvium and colluvium derived from sandstone	60	25-50	7.9-9.0	2.0	Well drained	8-18	D	0-10	High	0.05-0.15
			Badland	--	--	15	25-50	7.9-11.0	20.0	Somewhat excessively drained	40-60	D	5-30	Very high	0.10
			Rock outcrop	--	--	10	25-50	--	--	--	--	D	--	Very high	--
263	Walknolls-Mikim association	14	Walknolls	Extr. channery sandy loam, v. channery sandy loam, unweathered bedrock	Slope alluvium and colluvium derived from sandstone	55	25-50	7.9-9.0	2.0	Well drained	8-18	D	0-10	High	0.05-0.15
			Mikim	Silt loam, clay loam, loam	Alluvium derived from sandstone, limestone, and shale	30	2-4	7.9-9.0	2.0	Well drained	20-25	B	0-10	Low	0.32-0.55
264	Walknolls-Rock outcrop complex	9	Walknolls	V. channery sandy loam, unweathered bedrock	Slope alluvium and colluvium derived from sandstone	75	2-50	7.9-9.0	2.0	Well drained	8-18	D	0-10	High	0.10-0.15
			Rock outcrop	--	--	15	25-50	--	--	--	--	D	--	Very high	--
266	Walknolls-Uendal association	26	Walknolls	V. channery sandy loam, unweathered bedrock	Slope alluvium derived from sandstone	55	2-25	7.9-9.0	2.0	Well drained	8-18	D	0-10	Medium	0.10-0.15

Map Unit	Soil Complex Name	Acreage in Project Area	Soil Unit Name	Soil Type	Parent Material	Percent of Soil Complex (%)	Slope (%)	pH Range	Max. Salinity (mmhos/cm)	Drainage Class	Clay Content (%)	Hydrologic Group	Sodium Adsorption Ratio (SAR)	Runoff Class	Erosion Potential (Kw)
			Uendal	Gravelly sandy loam, sandy loam, unweathered bedrock	Slope alluvium derived from sandstone	35	4-8	7.9-9.0	2.0	Well drained	8-15	C	0-5	High	0.15-0.32
270	Whitesage-Cedarknoll cmplex	38	Whitsage	Silt loam, loam	Slope alluvium derived from sandstone, limestone, shale, and quartz	50	4-8	7.9-9.0	2.0	Well drained	18-27	B	0-10	Medium	0.37-0.43
			Cedarknoll	Channery fine sandy loam, v. channery loam, extr. channery loam, extr. flaggy loam, unweathered bedrock	Eolian deposits over residuum derived from siltstone and sandstone	30	3-8	7.9-9.0	2.0	Well drained	10-27	D	0-5	Very high	0.24-0.37

Appendix E

Special Status Species Lists

Threatened, Endangered, Candidate, Utah Special Status Animal Species including Partners-In-Flight Species of Concern

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Bonytail *Gila elegans*	FE	Is endemic to the Colorado River system within main channels of large rivers, and favor swift currents.	Low. This species occurs in the Green River. Suitable habitat for this species is not present within the project area. Water for the proposed project will come from state water rights, which are considered to be historic (pre1988) depletions.	Yes
Colorado pikeminnow *Ptychocheilus lucius*	FE	Known from the Colorado River system. Uses large swift rivers.	Low. This species occurs in the Green and White Rivers. Suitable habitat for this species is not present within the project area. Water for the proposed project will come from state water rights, which are considered to be historic (pre1988) depletions.	Yes
Humpback chub *Gila cypha*	FE	Is endemic to the Colorado River System within deep, swift-running rivers, with canyon shaded environments.	Low. This species occurs in the Green River. Suitable habitat for this species is not present within the project area. Water for the proposed project will come from state water rights, which are considered to be historic (pre1988) depletions.	Yes
Razorback sucker *Xyrauchen texanus*	FE	Endemic to large rivers of the Colorado River system.	Low. This species occurs in the Green and White Rivers. Suitable habitat for this species is not present within the project area. Water for the proposed project will come from state water rights, which are	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
			considered to be historic (pre1988) depletions.	
Black-footed ferret *Mustela nigripes*	FE	Semi-arid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies that are of sufficient size.	None. No direct or indirect impacts are anticipated. The distribution of Black-footed ferrets is limited to a "nonessential experimental" population located in Coyote Basin along the Utah/Colorado border.	Yes
Canada Lynx *Lynx lynx canadensis*	FT	Primarily occurs in Douglas-fir, Spruce-fir, and subalpine forests at elevations above 7,800 feet amsl. The lynx uses large woody debris, such as downed logs and windfalls.	None. If extant in Utah, this species occurs in montane forests in the Uinta Mountains. Habitat is not present within the proposed project area.	Yes
Mexican spotted owl *Strix occidentalis lucida*	FT; PIF	In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components. Breeding and nesting season: March through August.	None. The habitat has been surveyed and has been determined unsuitable for nesting (Assessment of Potential Mexican Spotted Owl Nesting on BLM-Administrated Lands in Northeastern Utah, September 2005).	Yes
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC; PIF	Riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands, alder thickets, deserted farmlands, and orchards. Breeding season: late June through July.	None. Species is known to occur along the Green River and Ouray National Wildlife Refuge. Habitat is not present within the proposed project area.	Yes
Bluehead sucker *Catostomus discobolus*	CAS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	Low. This species occurs in the upper Colorado River system. Habitat is not present within the proposed project area. Water for the proposed project will come from state water rights, which are considered to be historic (pre1988) depletions.	Yes
Flannelmouth sucker	CAS	Adults occur in riffles, runs, and pools in streams and	Low. This species occurs in the upper	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Catostomus latipinnis		large rivers, with the highest densities usually in pool habitat. Young live in slow to moderately swift waters near the shoreline areas.	Colorado River system. Habitat is not present within the proposed project area. Water for the proposed project will come from state water rights, which are considered to be historic (pre1988) depletions.	
Roundtail chub *Gila robusta*	CAS	Adults inhabit low to high flow areas in the Green River; young occur in shallow areas with minimal flow.	Low. This species occurs in the upper Colorado River system. Habitat is not present within the proposed project area. Water for the proposed project will come from state water rights, which are considered to be historic (pre1988) depletions.	Yes
Colorado River Cutthroat trout *Oncorhynchus clarkii pleuriticus*	CAS	Requires cool, clear water and well-vegetated streambanks for cover and bank stability; instream cover in the form of deep pools and boulders and logs also is important; adapted to relatively cold water, thrives at high elevations. Most remaining populations are fluvial or resident. Occurs also in lakes.	None. Habitat is not present within the proposed project area.	Yes
Northern Goshawk *Accipiter gentilis*	CAS	Generally found in a wide variety of forest types including deciduous, coniferous, and mixed forests. Typically mature and old growth forests and generally selects larger tracts of forest over smaller tracts. In the western U.S., characteristically nests in coniferous forests including those dominated by ponderosa pine, lodgepole, or in mixed forests dominated by various coniferous speciss including, Douglas-fir, cedar, hemlock, spruce, and larch. Western birds also nest in deciduous forests dominated by aspen, paper birch, or willow.	None. Prefers old growth forests near or within large drainage systems. Habitat is not present within the proposed project area.	Yes
Bald eagle	WSC	In Utah, breeding occurrences are limited to 10 locations	None. Bald eagles utilize ungulate	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Haliaeetus leucocephalus		within four counties (Carbon, Daggett, Duchesne, Grand, and Salt Lake counties). Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts.	winter ranges that provide carrion, and areas that provide open water such as the Green and White Rivers. Roosting and nesting habitat does not occur within the proposed project area.	
American white pelican *Pelecanus erythrorhynchos*	WSC; PIF	Inhabits areas of open water including large rivers, lakes, ponds, and reservoirs with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs.	None. Known to nest on islands associated with the Great Salt and Utah Lakes. In northeastern Utah the species occurs as a transient on larger water bodies. Habitat is not present within the proposed project area.	Yes
Greater Sage-grouse *Centrocercus urophasianus*	WSC; PIF	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds) and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 2-mile radius of the lek. During winter, sagebrush habitats at submontane elevations commonly are used.	High. The species is widespread but declining, with extant populations in Uintah and Duchesne counties. Brooding and wintering habitat is present within the proposed project area. In addition, the Monument Ridge Lek and Popewell Ridge Lek is within 2 miles of the proposed project area. Possible direct and indirect impacts are anticipated. Potential cumulative effects based on proximity of the proposed project area to rearing and brooding habitat and leks.	No
Ferruginous hawk *Buteo regalis*	WSC; PIF	Resides mainly in lowland open desert terrain characterized by barren cliffs and bluffs, pinon-juniper woodlands, sagebrush-rabbit brush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops.	Low. This species is known to occur in the West Desert and Uintah Basin as a summer resident and a common migrant. Within the Uintah Basin, the species is more associated with prairie dog colonies as the main prey base. However, no known or documented nests are within ½ mile of the proposed project area.	Yes
Burrowing owl	WSC	Inhabits desert, semi-desert shrubland, grasslands, and	Moderate-high. Possible nesting	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Athene cunicularia		agriculture areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation; and abandoned mammal burrows (within northeastern Utah primarily in association with prairie dog complexes) for nesting and shelter.	habitat occurs throughout the scattered, active prairie dog colonies found within ¼ mile of the proposed project area.	
Mountain plover *Charadrius montanus*	WSC; PIF	In the Uintah Basin, small Mountain plover populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by Artemesia spp. with components of black sage and grasses. Nest locations also vary with respect to topography (nests were located on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings).	None. The only known breeding mountain plover population in the state occurs on Myton Bench located approximately 25 miles west of the proposed project area. No cumulative effects anticipated.	Yes
White-tailed prairie dog *Cynomys leucurus*	WSC	Inhabits grasslands, plateaus, plains and desert shrub habitats. White-tailed prairie dogs form colonies or "towns" and spend much of their time in underground burrows and hibernating during the winter months.	High. Prairie dogs are an obligate species to several other state sensitive species such as Ferruginous hawk, Mountain plover, and Burrowing owl, in that these species depend on them for food, shelter, and nesting habitat or habitat manipulation. Scattered, active colonies are identified as occurring along the northern portion of the proposed project area.	No
Short-eared owl *Asio flammeus*	WSC	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized. Typically a ground nester.	Low. Possible habitat occurs; however, there are no known or documented nests within ½ mile of the proposed project area. Given the existing disturbance and general maintenance of the existing road no impacts are anticpated.	Yes
Lewis's Woodpecker *Melanerpes lewis*	WSC; PIF	Inhabits open habitats including pine forests, riparian areas, and pinion-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. The species inhabits agricultural lands and urban parks, montane and desert	Low. In Utah, the species is widespread, but is an uncommon nester along the Green River. Breeding by this species has been observed in Ouray and Uintah	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		riparian woodlands, and submontane shrub habitats.	counties, and along Pariette Wash. Habitat is present in the southern half of the proposed project area.	
Three-toed Woodpecker *Picoides tridactylus*	WSC; PIF	Prefers coniferous forest, primarily spruce and balsam fir. It inhabits areas where dead timber remains after fires or logging. It is found less frequently in mixed forest, and occasionally in Willow thickets along streams. Also found in high elevation aspen groves, bogs, and swamps.	None. In Utah, the species is widespread but no habitat exists within the proposed project area. The Three-toed woodpecker is associated more with spruce trees and not pinion pine or Doug-fir. Habitat is not present within the proposed project area.	Yes
Grasshopper sparrow *Ammodramus savannarum*	WSC; PIF	Prefers grasslands of intermediate height and are often associated with clumped vegetation interspersed with patches of bare ground. Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation.	Moderate. In Utah, the species is widespread and has been known to breed in Uintah, Duchesne, and Daggett counties. Habitat is present within the proposed project area.	No
Long-billed Curlew *Numenius americanus*	WSC; PIF	Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy meadows with bare ground components, usually near water.	None. Widespread migrant in Utah. Breeding birds are fairly common but localized, primarily in central and northwestern Utah. Potential nesting has been reported in Uintah County, but has not been confirmed. Habitat is not present within the proposed project area.	Yes
Bobolink *Dolichonyx oryzivorus*	WSC; PIF	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,000 feet amsl). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	None. The species breeds in isolated areas of Utah, primarily in the northern half of the state. Breeding and winter habitat have been documented throughout Uintah, Duchesne, and Daggett counties. Habitat is not present within the proposed project area.	Yes
Big free-tailed bat	WSC	Rocky areas in rugged country. The species has been	Low-moderate. The species has been	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Nyctinomops macrotis		observed in lowlands of river floodplain-arroyo association; also in shrub desert and woodland habitats. Roosts in rock crevices (vertical or horizontal) in cliffs; also in buildings caves, and occasionally tree holes. Winter habits unknown.	documented in the northeastern part of the state from Daggett County into Wyoming. Foraging habitat for this species is present within the proposed project area.	
Fringed myotis *Myotis thysanodes*	WSC	The species is widely distributed throughout Utah, but is not very common in the state. The Fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas.	Low. High value and substantial value habitat exists for the species in southern Utah in lower elevations; however, the species has had a couple of documented sightings along the White River. Foraging habitat is present within the proposed project area.	No
Spotted bat *Euderma maculatum*	WSC	Inhabits desert shrub, sagebrush-rabbit brush, pinion-juniper woodland, and ponderosa pine and montane forest habitats. The species also uses lowland riparian and montane grassland habitats. Suitable cliff habitat typically appears to be necessary for roosts/hibernacula. Spotted bats typically do not migrate and use hibernacula that maintain a constant temperature above freezing from September through May.	Moderate. The species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Foraging habitat is present within the proposed project area.	No
Townsends big-eared bat *Corynorhinus townsendii*	WSC	Inhabits a wide range of habitats from semidesert shrublands and pinion-juniper woodlands to open montane forests. Roosting occurs in mines and caves, in abandoned buildings, on rock cliffs, and occasionally in tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush.	Moderate. The species occurs throughout much of Utah including Duchesne and Uintah counties. One individual was collected at the Ouray National Wildlife Refuge in 1980. Roosting habitat for this species potentially could occur in areas where rock ledges and crevices are present. Foraging habitat is present within the proposed project area.	No
Western (Boreal) toad *Bufo boreas*	WSC	Commonly found throughout most of Utah and can be found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes meadows,	None. The species is commonly spread throughout central and northern Utah. The only known occurrence in	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		and woodlands.	the basin exists within the northwest portion of Uintah County which has substantial value habitat for the species. Habitat is not present within the proposed project area.	
Corn snake *Elaphe guttata*	WSC	Habitat includes pine woodlands, brushy fields, open hardwood forests, mangrove thickets, barnyards, and abandoned buildings, areas near springs, old trash dumps, and caves.	None. Occurs in Uintah County. The species have been identified at Ouray National Wildlife Refuge. Habitat is not present within the proposed project area.	Yes
Smooth green snake *Opheodrys vernalis*	WSC	Habitat includes meadows, grassy marshes, moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodland, abandoned farmland, and vacant lots.	None. Although not commonly seen throughout Utah the species has been documented in the northern section of Uintah County in lower elevations. Habitat is not present within the proposed project area.	Yes
Prairie falcon *Falco mexicanus*	PIF	Habitat includes alpine, cliff, cropland/hedgegrow, desert, and grassland/herbaceous areas.	Low. There are no known or documented nests are within ½ mile of the proposed project area.	Yes
Swainson's hawk *Buteo swainsonii*	PIF	Inhabits grasslands, deserts, agricultural areas, shrublands, marshlands, and riparian forests. Nest in trees in or near open areas. Breeding season: April 1 – July 15.	Low. There are no known or documented nests are within ½ mile of the proposed project area.	Yes
Black-chinned hummingbird *Archilochus alexandri*	PIF	Habitat includes dry lowlands and foothills with pinion-juniper woodlands.	Low-moderate. Habitat is present within the proposed project area.	No
Broad-tailed hummingbird *Selasphorus platycercus*	PIF	Habitat includes open woodland, especially pinion-juniper, pine-oak, and conifer-aspen association; brushy hillsides; montane scrub and thickets.	Low–moderate. Habitat is present within the proposed project area.	No
Brewer's sparrow *Spizella breweri*	PIF	Habitat includes desert and shrubland/chaparral.	High. Habitat is present within the proposed project area.	No
Cassin's finch *Carpodacus cassinii*	PIF	Habitat includes open coniferous forest; in migration and winter also in deciduous woodland, secondary growth,	Moderate-high. Habitat is present within the proposed project area.	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		scrub, brushy areas, partly open situations with scattered trees.		
Cassin's kingbird *Tyrannus vociferan*	PIF	Habitat includes sparse woods and dry scrub areas.	Moderate-high. Habitat is present within the proposed project area.	No
Clark's nutcracker *Nucifraga Columbiana*	PIF	Habitat includes open coniferous forest, forest edge and clearings, primarily in mountains, but wandering into various habitats; in winter also in lowlands.	High. Habitat is present within the proposed project area.	No
Gray flycatcher *Empidonax wrightii*	PIF	Habitat includes arid areas of sagebrush or pinion-juniper woodlands.	Moderate-high. Habitat is present within the proposed project area.	No
Gray vireo *Vireo vicinior*	PIF	Habitat includes dry shrubby areas, chaparral, and sparse woodlands.	Moderate-high. Habitat is present within the proposed project area.	No
Green-tailed towhee *Pipilo chlorurus*	PIF	Habitat is usually low shrubs, sometimes interspersed with trees; avoids typical forest, other than open pinion-juniper woodlands. In pinion-juniper, associated with sagebrush (*Artemesia* spp.) dominated openings with high shrub species richness.	Low-moderate. Habitat is present within the proposed project area.	No
Juniper titmouse *Parus inornatus*	PIF	Habitat includes sparse pinion-juniper and oak woodlands.	Moderate-high. Habitat is present within the proposed project area.	No
Mountain bluebird *Sialia currucoides*	PIF	Habitat includes subalpine meadows, grasslands, shrub-steppe, savanna, and pinion-juniper woodlands; in south usually at elevations above 1500 m (4900 ft.). In winter and migration also inhabits desert, brushy areas and agricultural lands.	High. Habitat is present within the proposed project area.	No
Pinion jay *Gymnorhinus cyanocephalus*	PIF	Habitat includes semi-arid foothills with pinion-juniper woodlands.	High. Habitat is present within the proposed project area.	No
Sage sparrow *Amphispiza belli*	PIF	Habitat includes dry sagebrush/scrublands with sparse vegetation.	High. Habitat is present within the proposed project area.	No
Sage thrasher *Oreoscoptes montanus*	PIF	Habitat includes desert and shrubland/chaparral.	High. Habitat is present within the proposed project area.	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Virginia's warbler *Vermivora virginiae*	PIF	Habitat includes dry woodlands, scrub oak brushlands, canyons and ravines.	Low. Habitat is present within the proposed project area.	No
White-throated swift *Aeronautes saxatalis*	PIF	Habitat includes cliffs and canyons.	None. Habitat is not present within the proposed project area.	Yes
Wilson's phalarope *Phalaropus tricolor*	PIF	Habitat includes grassland/herbaceous riparian and wetlands.	None. Habitat is not present within the proposed project area.	Yes

Federally Listed Species:

- FE = Federally listed as endangered;
- FT = Federally listed as threatened;
- FC = Federally listed as candidate

State Sensitive Species:

- CAS = State Conservation Agreement Species;
- WSC = Wildlife Species of Concern

PIF = Partners in Flight species of concern, Colorado Plateau, Utah Mountains, potentially in the Vernal Field Office.

SPECIAL STATUS PLANT OCCURRENCE IN THE VERNAL FIELD OFFICE

SPECIES	STATUS	LOCATION / HABITAT (County—Location, Geologic Formation, Plant Community, Elevation)	OCCURRENCE OR OCCURRENCE POTENTIAL	ELIMINATED FROM ANAYSIS?
Arabis vivariensis Park rock cress	S	Uintah—Diamond Mt, Diamond Gulch Weber Fm sandstone & limestone, MDS or PJ, 5000′-6000′	None	Yes
Astragalus equisolensis Horseshoe milkvetch	0	Uintah—Green River Horseshoe Bend, Duchesne River Fm sand & silty sand, MDS, 4790′-5185′	None	Yes
Astragalus hamiltonii Hamilton milkvetch	S	Uintah—Asphalt Ridge Mowry, Dakota & Wasatch Fms Lapoint & Dry Gulch Mbrs, Duchesne Fm MDS or PJ, 5240′-5800′	None	Yes
Cirsium ownbeyi Ownbey thistle	S	Daggett, ne Uintah—east Uinta Mts canyons Crowe & Allen Cyns, Diamond Mt WMA PJS, MDS or riparian, 5500′-6200′	None	Yes
Cleomella p. var. *goodrichii* Goodrich cleomella	S	Uintah—Diamond Mt Morrison, Mancos, Tropic Fms heavy clay & shale slopes SDS, 4000′-6000′	None	Yes
Erigeron untermannii Untermann fleabane	S	Duchesne, Uintah—West Tavaputs Plateau Green River, Uinta Fm ridges, dry calcareous shales & sandstones PJ or MB, 7000′-7800′	None	Yes
Habenaria zothecina Alcove bog-orchid	S	Uintah—“hanging garden” oases Navajo or Nugget Sandstone Fm MDS, PJS, or oak brush, 4360′-8690′	None	Yes
Hymenoxys lapidicola Rock bitterweed	S	Uintah—Blue Mt, Cliff Ridge Weber Fm, sandy ledges & crevices PJ or ponderosa-manzanita, 5700′-8100′	None	Yes
Lepidium barnebyanum Barneby’s pepperplant	E	TRIBAL—Duchesne West Tavaputs Plateau, Indian Canyon Uinta Fm, white shale outcrops & ridges barren inclusions in PJ, 6200′-6500′	None	Yes
Lepidium huberi Huber pepperplant	S	Uintah—foothills, Ashley Crk, Dry Fork Chinle, Park City, Weber Fm eroding cliffs, alluvium, sandy or shaly bluffs black sage or MB, 5000′-6400′	None	Yes
Mentzelia goodrichii Goodrich blazingstar	S	Duchesne—Willow & Argyle Canyons Green River Fm, steep escarpments & cliffs white calcareous shale, MB, 8100′-8800′	None	Yes
Penstemon acaulis	S	Daggett—Browns Park Fm	None	Yes

SPECIES	STATUS	LOCATION / HABITAT (County—Location, Geologic Formation, Plant Community, Elevation)	OCCURRENCE OR OCCURRENCE POTENTIAL	ELIMINATED FROM ANAYSIS?
Stemless beardtongue		ashy, gravelly or sandy ridges & knolls sagebrush-desert grass or PJ, 5840′-7285′		
Penstemon gibbensii Gibbens beardtongue	S	Daggett—Browns Park Fm Green River Fm sandy / shaly bluffs, slopes juniper, thistle, buckwheat, serviceberry 5500′-6400′	None	Yes
Penstemon goodrichii Goodrich beardtongue	S	Duchesne, Uintah— Lapoint, Tridell, Whiterocks Duchesne River Fm; clay badlands MDS, shadscale, PJ or MB, 5590′-6215′	None	Yes
Penstemon grahamii Graham beardtongue	S	Uintah, Duchesne— oil shale outcrops throughout VFO Evacuation Creek, lower Parachute Mbrs oil shale or white shale knolls & talus semi-barren MDS or PJ, 4600′-6700′	Yes	No
Penstemon s. var. *albifluvis* White River beardtongue	C	Uintah—south & southeast of Bonanza Evacuation Creek, lower Parachute Mbrs shale slopes, semi-barren MDS or PJ 4600′-6000′	None	Yes
Schoenocrambe argillacea Clay reed-mustard	T	Uintah—canyon rims & steep slopes contact zone, Uinta-Green River Fms MDS, 5000′-5650′	Yes	No
Schoenocrambe suffrutescens Shrubby reed-mustard	E	Duchesne, Uintah— Big Pack Mt, Wrinkles Rd, Hill Creek Basin Green River Fm, calcareous shale MDS, PJS or MB, 5400′-6000′	None	Yes
Sclerocactus brevispinus Pariette cactus	T	Duchesne—Pariette Wash south of Myton Uinta Fm, Wagonhound Mbr, alkaline clay shadscale, mat-saltbush, greasewood comm 4700′-5400′	None	Yes
Sclerocactus wetlandicus Uinta Basin hookless cactus	T	Duchesne, Uintah—widespread in VFO alluvial benches Ouray to Carbon Co. line MDS, 4700′-6000′	None	Yes
Spiranthes diluvialis Ute ladies'-tresses	T	Daggett, Duchesne, Uintah— unconsolidated alluvium riparian corridors, wetlands, wet meadows 4400′-6810′	None	Yes
Thelesperma caespitosum Uinta greenthread	S	Duchesne— West Tavaputs Plateau, north slope Uintas Bishop Fm, white shale benches, ridgecrests cushion plant comm above PJS & MB 5000′-9000′	None	Yes

STATUS:	E = Federally Endangered T = Federally Threatened C = Federal Candidate S = Bureau-sensitive 0 = nonstatus, removed from status, potential status
HABITAT:	MB = Montane Brush MDS = Mixed Desert Shrub PJ = Pinyon-Juniper PJS = Pinyon-Juniper-Sagebrush SDS = Salt Desert Scrub
OCCURRENCE:	None = individuals, suitable habitat and/or potential habitat for this species does not occur in Project Area. Yes = individuals, suitable habitat and/or potential habitat for this species does occur in Project Area.

Appendix F

Recommended Graham Beardtongue Conservation Measures

Recommended Graham Beardtongue (*Penstemon grahamii*) Conservation Measures

In order to minimize effects to the federally proposed Graham beardtongue, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed a series of conservation measures that would avoid or minimize impacts to the species and its habitat. Integration of and adherence to these measures will help ensure the activities carried out during surface disturbance activities are in compliance with the Endangered Species Act (ESA) and will not result in a trend toward federal listing of the species. The following avoidance and minimization measures are recommended for the Uintah County's proposed upgrades and paving of the existing Seep Ridge Road.

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable Graham beardtongue habitat is present.

2. All surface-disturbing activities having potential direct or indirect impacts on proposed critical habitat are prohibited.

3. Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
    b. Will be conducted in suitable and occupied habitat[4] for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to May 20th in the Uinta Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
    c. Will occur within 300' from the centerline of the proposed right-of-way for roads,
    d. Will include, but not be limited to, plant species lists and habitat characteristics, and
    e. Will be valid until April 15th the following year.

4. Design project infrastructure to minimize impacts within suitable habitat[2]:
    a. Limit new access routes created by the project,
    b. Roads and utilities should share common right-of-ways where possible,
    c. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible,
    d. Place signing to limit off-road travel in sensitive areas, and
    e. Stay on designated routes and other cleared/approved areas.

5. Within occupied habitat[4], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
    a. Follow the above (#3) recommendations for project design within suitable habitats, ,
    b. Construction activities will not occur from April 15th through May 30th within occupied habitat,
    c. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
    d. Designs will avoid concentrating water flows or sediments into occupied habitat,
    e. Minimize the disturbed area through interim and final reclamation.

6. Occupied Graham beardtongue habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of well pads shall be

monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

7. Reinitiation of Section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Graham beardtongue is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

Appendix G

Exhibits